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MEDICAL AND SOCIAL PROBLEMS OF POPULATION—TRENDS AND IMPLICATIONS

CHAIRMAN'S ADDRESS

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The purpose of this paper is to call attention to some of the broader aspects of medicine, particularly those associated with changes in the size and age structure of the population in different areas of the world. These problems vary widely. In the United States, the total population is aging and is still increasing in size, although a downward trend is probable within the foreseeable future; Asia struggles with difficulties arising out of multitudes she cannot easily support; Western Europe is faced with long-time trends threatening a decline in population. The social scientists have studied these conditions carefully; responsibility for action in an enlightened society lies with the individual members and groups.

As man has progressed from the dawn of civilization, his primary concern has always been survival: survival of the individual and survival of the group. This has also been medicine's primary function; life, health and relief of suffering represent the goals of medical science and practice. Moreover, a very fair measure of success has been achieved. Modern medicine, sanitation, and technology have dramatically reduced the number of deaths from infectious diseases and have increased the life expectancy in Western society. These and other changes resulting from man's increasing knowledge have created some of the problems that now so urgently demand solution.

The modern era in Western civilization should probably be dated from the intellectual, agricultural, commercial, and industrial revolution arising in Western Europe in the 17th and 18th centuries and progressing rapidly in the 19th. Today, at the middle of the 20th century, Western Europe and North America are far advanced in the phase of industrial and technological development; Africa and Asia are just beginning to enter this stage; other areas, such as Russia and South America, are in a transitional stage. A close correlation has been demonstrated between these stages of industrial development and three phases of population growth.[1] These are sketched diagrammatically in Chart 1.[1a] First is the phase of preindustrial "high-growth potential" in which the birth and death rates are both high, as in the Orient. The second stage, appearing with the introduction of technological advances, sanitation, and medicine, is a period of "transitional growth" characterized by a declining death rate while the birth rate remains high, thus producing a phenomenal growth in population. The third phase, following the other two, is one of "incipient decline," in which the birth rate falls progressively, producing a trend toward declining total population growth. Western Europe is in this phase. The United States has passed through the first two phases with a rapid population growth (Chart 2); this has been due to a high birth rate, a rapidly decreasing death rate, and heavy immigration.[2] We are approaching the end of this era, as is evident from a study of long-term trends in birth and death rates.

INCREASED LIFE EXPECTANCY IN WESTERN SOCIETY

An interesting estimate (Chart 3) has been constructed of life expectancy in ancient Greece, imperial Rome, medieval England and the United States of today.[3] The estimated average age at death in the time of Pericles was approximately 18 years; in the ensuing 2,000 years it slowly rose to perhaps 33 years, but in the past half century in the United States it has zoomed to almost 70 years. The change has been largely due to the great decrease in deaths from infectious diseases. Decreases in deaths from diphtheria, scarlet fever, whooping cough

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1. Notestein, F. W.: Population—The Long View, in Schultz, T. W.: Food for the World, Chicago, University of Chicago Press, 1945, pp. 36-69.
1a. This article has been shortened for publication in THE JOURNAL by omission of charts 1, 2, 3, 5, 6, and 8. These will appear in the authors' reprints.
2. The Problems of a Changing Population: Report of the Committee on Population Problems to the National Resources Committee, May, 1938.
3. Shock, N. W.: Trends in Gerontology, Stanford University, Calif., Stanford University Press, 1951.

and typhoid in New York City in the period from 1868 to 1921 are shown in Chart 4.[4] The lives saved were primarily those in the younger age group. However, progress has been made in the older age group as well, as is clearly shown in Chart 5, with the marked reduction in the death rates from pneumonia and influenza in persons

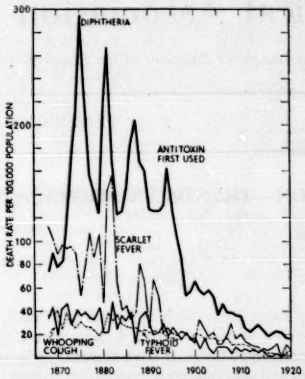

Chart 4.—Death rates per 100,000 population from typhoid, whooping cough, scarlet fever and diphtheria, in New York City, from 1868 to 1921.[4]

aged 65 years and resulting from the introduction of antibiotic and chemotherapeutic drugs. The principle causes of death have shifted from the infectious to the degenerative and neoplastic diseases (Chart 6). It is not likely that the life expectancy can be extended far beyond 70 years within the near future.

THE PROBLEMS OF AN AGING POPULATION

As the proportion and number of older people increases, the associated problems increase. Of these, the foremost is the greater incidence of chronic diseases not causing immediate death, for the percentage of impaired and disabled individuals increases directly with age (Chart 7).[3] Moreover, in addition to physical disability, there are the serious emotional disturbances of old age; senescence is often characterized by frustration, bitterness, and other manifestations of physiological and social maladjustment. Our hope is that we may delay senility rather than prolong it.[5] Ideally, old people should be kept physically well, mentally alert, energetic, and vigorous.

Another aspect of an aging population is the constantly-increasing burden placed upon the wage earners by the growing proportion of aged (Chart 8). Only 8% of our population are now over 65 years of age, but this figure will increase to an estimated 13% in the next half century. It is more difficult to provide care for the aged than it is to provide care for the young because of the higher incidence of physical and mental disability. Our state institutions, already overcrowded, are reserved for the actually incompetent. There is a great need for homes—private, semiprivate, or state—in which elderly groups may live together without being a burden to their families and receive therein such care as may be required.

DECLINING BIRTH RATES

The change in the age-structure of our population has resulted from a decrease in our birth rate even more than from the decrease in the death rate. It is perhaps not sufficiently realized that in most of Western Europe and North America the birth rate has been declining more or less steadily since the latter part of the nineteenth century.[6] The falling birth rate has been well documented in Sweden for the past 70 years (Chart 9); the death rate likewise has fallen; considerable emigration has occurred, and although the total population thus far has not actually decreased, it has a different composition in two important respects: 1. It has a higher percentage of old people; 2. The birth rate is so low that, as the aged die they are not potentially replaced by persons in younger age groups. The net reproduction rate in Sweden is now less than 75% of that required to maintain a population which reproduces itself.[6a] The same situation in general exists or is developing in France, England, Italy and other countries of Western Europe; a similar long-term trend is present in the United States, as may be seen from Chart 10, showing the estimated number of births per 1,000 women of childbearing age.[2]

The question may well be asked as to what measures may be taken to maintain the net reproduction rate at a desired level. It is estimated that in Sweden those married women able to bear children should each have a family of four in order to offset the unmarried and childless women.[6a] The number of childless marriages may be decreased by medical advances, but the effect will probably not be statistically significant. Social pressures may be brought to bear; Germany and Italy under Hitler and Mussolini attempted to increase the birth rates

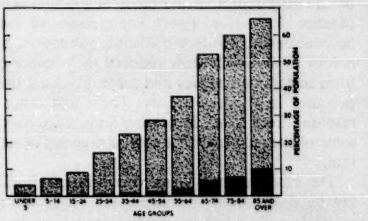

Chart 7.—Per cent of population impaired and disabled according to age (1946). From Shock,[3] p. 13. The dark blocks represent those disabled, the stippled blocks, those impaired.

through pronatal policies such as propaganda to remove the stigma attached to the unmarried mother, allowances for maternal and child care, payments of bounties for each child, and other governmental measures. The results of similar programs in democracies, such as Sweden and France, are at present inconclusive.[6a,b] The steps already taken in this country toward maternal and child welfare may be looked upon as indicative of such trends, although for the most part they have been aimed

4. Cohn, A. E., and Lingg, C.: The Burden of Diseases in the United States, New York, Oxford University Press, 1950.

5. Simms, H. S.: The Problems of Aging and of Vascular Diseases, Science 95: 183-186, 1942.

6. (a) Myrdal, G.: Population: A Problem for Democracy, Cambridge, Harvard University Press, 1940. (b) Thompson, W. S.: Population Problems, McGraw-Hill Publications in Sociology, New York, McGraw-Hill Book Company, Inc., 1942. (c) Davis, M. E.: Personal communication to the author.

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at the solution of other problems and only indirectly bear on population growth. Furthermore, factors associated with economic prosperity and war increase the birth rate, as was clearly evident in the United States in both World Wars and is still apparent. It is difficult to predict how long the present upsurge will last; in all probability it will spend itself here as in Western Europe in a relatively short time; the downward trend will be resumed, and early in the next century the population is likely to become stationary or may actually begin to decline. If this prediction is fulfilled, our nation will be faced with three possible solutions: stimulation of reproduction, lowering of immigration barriers, or acceptance of gradual decline in population.

PLANNED AND UNPLANNED POPULATION CONTROL IN WEST AND EAST

The population problems of those countries now in the preindustrial or transitional stages are in many ways entirely different from those of Western Europe and North America. The people of the West have learned to restrict population, feed themselves better, house themselves more adequately, and to an increasing degree

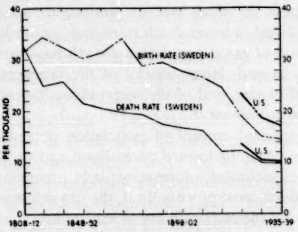

Chart 9.—Crude birth and death rates of Sweden and the United States, 1808 to 1939, based on data from Thompson,[6b] pp. 152 and 217.

realize the benefits of leisure and culture. There can be no doubt that the progressive and continued decline in the birth rate has been due in large measure to the voluntary control of conception. The motivation to control the number of births is linked with the rise of industrialization. In a sense, comfort, luxury, security, and leisure have taken precedence over reproduction; this may be regarded as the result of the ascendancy of philosophies emphasizing the welfare of the individual, and the growth of "urbanism as a way of life." [7]

From earliest times mankind has resorted to various measures to control the size of the family. Infanticide is perhaps the oldest method; it is still in existence in certain areas. In Western society, it is illegal, and the taboo against it is so strong that reports of its occurrence rarely appear. Abortion, on the other hand, although illegal except for medical indications, is widely used; it is estimated that there are at least one million criminal abortions performed each year in the United States.[8] Obviously, abortion does not carry the same taboo as infanticide, but, nevertheless, the feeling against it is so strong that there is little likelihood that it will ever become a legal or accepted method of birth control. Ultimately, population control must depend on methods of preventing conception. Continence, rhythm, and coitus interruptus may be effective, but the general dissatisfaction with these methods in the United States is evident from the popularity of contraceptive devices. Surgical sterilization by means of castration, tubal ligation, hysterectomy or vasectomy is not popular for obvious reasons.

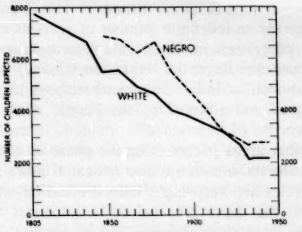

Chart 10.—Number of births expected per 1,000 women living through the childbearing ages at estimated birth rates for successive periods, 1810-1950. From the United States National Resources Committee.[2]

OVERPOPULATION

As the countries of Western society came under the influence of modern industrialization there was a long lag between the drop in the death rate and the subsequent decline in the birth rate; during this phase the population increased rapidly. This will doubtless occur also in the areas now entering industrialization; most of them are already densely overpopulated. Japan is an illustration. Her birth rate has begun to fall significantly; in fact her birth and death rates are similar to those of Britain and Wales a half century ago (Chart 11). Japan's population doubled itself between 1870 and 1920 and increased

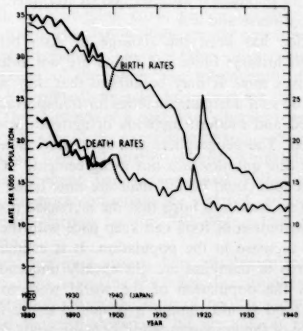

Chart 11.—Birth and death rates for Japan, 1921-1941 (represented by broad line) and for England and Wales, 1881-1939 (represented by narrow line), as found in Notestein,[1] p. 47.

31% between 1920 and 1940. A deceleration in the rate of growth became apparent in Japan around 1935, but the population may be expected to continue to increase

7. Wirth, L.: Urbanism as a Way of Life, Am. J. Sociology 44: 1-24 (July) 1938.

8. Mair, G. F.: Studies in Population, Proceedings of the Annual Meeting of the Population Association of America, Princeton, Princeton University Press, 1949.

for some time—this in a country already more heavily populated per acre of arable land than any other in the world.[9]

India, in the early phases of industrialization, already has a dense population, and it is increasing rapidly; in the decade from 1931 to 1940 the growth is estimated at 50 million, an increase in a 10-year period as large as the total population of Great Britain.[10] This increase may continue for an indefinite number of years as industrialization progresses, the death rate decreases, and the life span increases. Recently, Nehru has officially advocated birth control for India. The speed with which it can be introduced and adopted by the people is of vital importance.[10]

In other areas just entering the phase of early industrialization the situation is also critical. China's birth and death rates are very high; industrialization will surely decrease the death rate before it influences the birth rate; the population pressure, already intense, is certain to increase. Egypt, one of the most overpopulated and poverty-stricken countries, at present rates of growth, will probably double its population in the next 40 years.[11] Latin America, with a population now equal to that of the United States and Canada, will also double its population in the next 40 years.[11] Puerto Rico is already so crowded that its inhabitants have emigrated by the thousands to New York in the past decade; yet the population is increasing at a rate which is likely to double itself in approximately 30 years.[12]

The magnitude of the crises developing in these areas cannot be exaggerated. Man must learn to control his numbers, to correlate population with the supply of food and other conditions of well-being; if this is not done, the inevitable controls will be the "natural" limiting factors of population as described by Malthus: poverty, famine, disease and war.

Famine has been the scourge of Asia throughout recorded history. India and China are not able to feed themselves now. It may be alleged that they would be able to do so if adequate facilities for transportation were provided and modern methods of agriculture were introduced. The geographers and agriculturists who have studied this question are not in agreement.[13] Certainly more people could be fed than are now being fed, but there is no reason to hope that the increased production and distribution of food can keep pace with the present rate of increase in the population. It is estimated that two-thirds of mankind are chronically undernourished. Even if the population of the world were to remain stable, food would remain a principal concern of the majority of the human race for as many years as can be foreseen. But if present trends continue, as they will unless prompt world-wide action is taken, the population will not remain stable; it will increase rapidly; the bitter struggle for survival will become even more desperate.

In former ages, pestilence was a potent factor in the control of population. Modern medicine, sanitation, housing and technology have so changed the situation in Western society that deaths from epidemic diseases are becoming almost negligible. As these changes are introduced into the Orient, as dysentery, pneumonia, typhus and typhoid, cholera, malaria, and other scourges are brought under control, food will become an ever greater problem.

The influence of war on population has been variable. In earlier epochs, tribes were wiped out and nations submerged by conquering armies. The two World Wars, however, did not produce any serious depopulation; in fact, in all countries concerned, the birth rates rose and remained high for several years thereafter. In general, the effects of unusual economic and political situations, including wars and depressions, on total population growth are relatively transitory.

SUMMARY

In this paper I have endeavored to focus attention upon the relationships between population, the industrial revolution and modern medicine. The population problems of the world today can be divided into those of overpopulation in countries such as China and India, and those of a potentially declining population and aging in Western Europe and North America. The role of rational preventive medicine is clearly defined. In overpopulated areas, crises can be averted or ameliorated only through rationally planned conception. On the other hand, in those areas in which modern sanitation and medicine have resulted in lower death rates and greater longevity, the period of rapid population growth now seems to be nearing an end. Here, control of the degenerative diseases, of cancer, and of the social difficulties of old age are most prominent.[14]

The rational control of population depends on the attitudes of adults toward parenthood and on the availability of technical information; it is a personal and a social educational process. In it, the physician must bear his share of the responsibility of leadership.

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9. World Population in Transition, American Academy of Political and Social Science, the Academy, January, 1945.
10. Davis, K.: The Population of India and Pakistan, Princeton, N. J., Princeton University Press, 1951.
11. Milbank Memorial Fund: Demographic Studies of Selected Areas of Rapid Growth: Proceedings of the Round Table on Population Problems: 22d Annual Conference, April 12-13, New York, 1944.
12. Perloff, H. S.: Puerto Rico's Economic Future: A Study in Planned Development, Chicago, University of Chicago Press, 1950.
13. Footnote 1. Footnote 6[a].
14. Dickinson, F. G.: Some Social Implications of Medical Progress, Ann Int. Med., to be published.

Treatment of Narcotic Addicts.—The general practitioner should realize that it is almost impossible to treat addicts outside of institutions. Generally, addicts who present themselves to practitioners and request treatment are actually attempting to obtain supplies of drugs to maintain their addictions, and very frequently are obtaining drugs from a number of physicians. The general practitioner should therefore not attempt withdrawal of opiates or barbiturates in either the home or in general hospitals. The patient should be advised, and if possible persuaded, to enter some institution which specializes in treatment of addicts. . . .

The general practitioner can contribute most to the treatment of addiction after the patient has returned to his home following a period of institutional treatment. These individuals are in need of sympathetic understanding; they should not be regarded as criminals and every effort should be made to help them adjust to the various stresses of living without resorting to drugs.—Harris Isbell, M.D., What to Know About Drug Addiction, *GP*, Sept., 1951.

IMPORTANT CLINICAL DIVIDENDS FROM X-RAY EXAMINATION OF THE COLON

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A thorough, well-conducted radiologic examination of the large intestine represents a major diagnostic procedure in terms of technical and professional effort. If the considerable blocks of productive time which a radiologist must set aside for this one form of activity, as well as the time of technical assistants and the tying up of apparatus for considerable periods, are to be considered justifiable, it follows that the end-results of the procedure must constitute diagnostic assistance of great magnitude. From time to time it is necessary for the radiologist to reassure himself that the large expenditures of time and effort are truly worth while. A review of activities in the diagnostic division of the department of roentgenology at the University of Michigan for the five-year period July 1, 1944, to June 30, 1949, provides an opportunity to scrutinize in retrospect the clinical end-results of a considerable expenditure of effort in examinations of the colon. During that period over 200,000 patient-visits were made to the diagnostic division of the department, and of these, 7.2%, or 15,350, represented colon examinations. The proportion of this type of examination in relation to all other procedures varies less than one percentage point over the years.

With almost negligible fluctuation from year to year, 71.7% of all such examinations yielded findings considered to be entirely within the range of normal. It is fallacious to assume that this relatively high rate of normal findings represents unnecessary investigation and wasted effort. To be able to report with a high degree of accuracy that no serious abnormality exists represents a very considerable aid to the referring physician whose help and advice has been sought by patients presenting symptoms which suggest colonic disease. "Negative" findings which serve to narrow the field of possibilities in difficult and often obscure problems of differential diagnosis are truly valuable.

Six per cent of the total number of colon investigations represented repeat examinations in situations where diagnostic problems were particularly difficult. In 338 patients the presence of organic colonic disease was discovered although the exact nature could not be determined on the basis of x-ray findings. In this particularly difficult group the reexamination rate reached 42%, whereas in the preponderant normal group reexamination was utilized in only 3%.

ABNORMALITIES OF THE LARGE INTESTINE

Radiologically demonstrable abnormalities of the large intestine were found in 4,291 patients. The largest group within this category, 1,663 patients, presented one or more abnormalities among a large list of miscellaneous situations, no one of which occurred with sufficient frequency to be considered separately. Within this category of miscellaneous findings are to be found various postoperative alterations of the colon, fistulous tracts involving the large bowel at some point, megacolon, developmental anomaly, displacement by some unusual abdominal mass, hernia involving the colon, volvulus of colonic loops, and others. The ability to scrutinize segments of colon, permanently or temporarily abandoned by sidetracking operations, is frequently the source of highly important information for the surgeon in charge of the patient's welfare. By this means the subsidence of inflammatory lesions which earlier produced alarming obstructive symptoms can be detected. Decisions regarding the reestablishment of colonic continuity following temporary colostomy are often based largely on x-ray findings. The relationship of the large intestine to readily recognizable intra-abdominal masses of extra-alimentary nature is often helpful in the ultimate identification of such masses. This is particularly true in the case of primary tumors arising in retroperitoneal tissues. Occasional instances of endometriosis involving the colon come to light, explaining obscure lower intestinal tract bleeding or colonic obstruction. Unsuspected intraluminal foreign bodies can often lead to great diagnostic confusion until they are recognized on the occasion of x-ray examination. Hernias involving the diaphragm, anterior abdominal wall, or the inguinal canal may be shown to contain colonic loops. Herniation of the greater omentum almost invariably produces characteristic displacement and derangement of the colon, not infrequently providing totally unexpected clinical information for the diagnostician. The existence of megacolon, whether true Hirschsprung's disease or the expression of some obscure form of intestinal tract neuropathy, is easily verified by means of roentgenologic examination, and volvulus of the cecum, or more commonly the sigmoid, announces its presence in startling fashion. The same is true for intussusception.

Considered as a group, demonstrable miscellaneous abnormalities, involving the colon directly or indirectly, were encountered in the ratio of one to every six and one-half patients shown to be normal on radiologic investigation of the colon. Some of the abnormalities so grouped were of little clinical import although in some instances they were potentially significant in terms of future abdominal surgical procedures. Some of the miscellaneous findings, on the other hand, were of outstanding importance to the patient. The radiologist should

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expect to derive much gratification from the factual information he is able to turn up in the category of miscellaneous abnormalities.

PATHOLOGICAL ENTITIES

Diverticulosis.—The largest single pathological entity to be encountered in the course of examinations by means of the barium sulfate enema is diverticulosis with or without associated inflammatory disease of the gut wall. One thousand four hundred seventy-seven patients, or one for every 7.2 individuals found to be normal, were shown to have demonstrable diverticula of the colon. The majority of these were localized to the middle and proximal portions of the sigmoid, although in several instances similar outpouchings were observed throughout the descending colon and even across the abdomen in the ascending limb. The presence of multiple diverticula is so commonplace in middle-aged and older patients that their importance tends to be minimized in the minds of radiologists, internists, and surgeons. The realization that they represent potential sources of perforation and subsequent peritonitis with abscess formation is offset by the universal experience that this complication occurs with relative infrequency. Nevertheless, associated inflammatory disease can and does occur, a fact which endows the discovery of diverticula with considerable importance because it encourages serious consideration of the possibility by the referring physician in the event of subsequent acute abdominal situations.

Colitis.—The presence of colitis, whether it be of unknown or specific etiology, can be determined with great accuracy by direct proctoscopic or sigmoidoscopic means if and when the process involves the lowermost segments of the large intestine. Fortunately this is often the case. Even when so discovered, it immediately becomes a matter of great interest to determine the full anatomical distribution of the disease. In certain types, particularly those of tuberculous or amebic origin, it is common to find the disease restricted to the cecum and the right colon, where it is totally inaccessible to direct external investigation. The response of nonspecific ulcerative colitis to treatment can be determined with considerable accuracy on the basis of repeated x-ray examination. The differentiation between primary neoplasm in the right colon and inflammatory lesions involving this same portion of the gut is often an extremely difficult problem without x-ray assistance. In the five-year period under discussion, conclusive evidence of ulcerative colitis, including all forms, was encountered in 238 patients, or in the proportion of one to every 45 patients found to have perfectly normal colons.

Primary Colonic Neoplasm.—Without doubt, the suspicion or fear of primary colonic neoplasm represents the commonest reason for requested examination by x-ray means. In this series, primary neoplasm of the large intestine was reported in the case of 575 patients, representing the finding of one such lesion for every 18½ patients in whom no colonic abnormality of any sort could be detected. The average of 115 patients per year in a patient population representing some 3,000 per year would seem at first glance to be a small return for so large a diagnostic effort in terms of this important lesion. As a matter of fact, however, the certainty of ultimate lethal outcome, in the absence of early apprehension and adequate surgical removal, endows the arduous search for primary colonic neoplasms with a sustained and deeply rooted earnestness. To a very considerable extent the degree of success with which x-ray examination of the colon is practiced can be gauged by the resultant yield of identified primary new growths.

During one year, July 1, 1947, to June 30, 1948, of the five-year period reviewed, the x-ray finding of primary neoplasm of the large intestine was reported in 131 persons. Twenty-nine of these persons were set aside from further detailed analysis for the following reasons:

Sought treatment elsewhere	9
Lesions ultimately shown to be inflammatory disease	7
Colonic lesion proved as extension from other organ	6
Polyps proved to be benign	5
Endometriosis	1
Error in cataloguing	1

The remaining 102 patients were in every instance verified as having primary malignant tumors involving some segment of the large bowel. All recorded clinical and laboratory findings were carefully reviewed, and symptomatology, details of treatment, and deaths which occurred within the year following the period of investigation were studied in detail. The average age of the group was 59.7 years, with male patients predominating (64%).

Symptoms: Of the initial symptoms recalled by the patients, change in bowel habit (48%), observed blood in stool (43%), and abdominal pain (20%) occurring singly or in combination were the most frequently recorded. The appearance of earliest symptoms prior to hospital admission averaged seven and one-half months with 68% of the group reporting over-all duration of six months or less. On the average, patients waited three months after observing initial symptoms before first consulting a physician.

At the time of admission to the hospital or clinic, visible blood in stools was the commonest single symptom of the underlying disease (75%), closely followed by weight loss of 5 lb. (2.7 kg.) pounds or more (65%), and abdominal pain (53%). Closely grouped thereafter came diarrhea (36%), anorexia (34%), and constipation (33%), to be followed by a lengthy list of specific symptoms occurring with low individual frequency. Ribbon stools were described in but 14%.

Physical Signs: The leading physical signs of the underlying neoplastic disease were the following:

Positive sigmoidoscopic findings	69%
Palpable mass on rectal examination	58%
Hemoglobin below 80%	46%
Demonstrable hemorrhoids	34%
Externally palpable abdominal mass	21%
Evidence of distant metastasis	15%

The most outstandingly effective methods of physical examination proved to be sigmoidoscopic examination, positive in 68.6% of the total group though employed in but 88 instances, and rectal examination, which successfully detected the lesion in 58% of the total group. Anemia, as expressed by hemoglobin determination below 80% of normal, was observed in 46% of the

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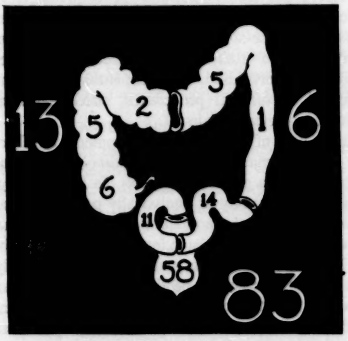
group. Hemorrhoids were detected in 34%, externally palpable mass in 21%, and evidence of distant metastasis in 15%.

With the exception of blood in the stool, the earliest symptoms associated with subsequently proved malignant colonic neoplasm are vague, and patients are wont to disregard them for considerable periods of time. The startling symptom of visible blood becomes a reliable index of the underlying disease in three-quarters of the patients before the tumor is ultimately apprehended. In over half of the patients abdominal pain suggests the wisdom of directed search for the presence of malignant neoplasm. Radiologists will be the first to agree that direct knowledge of the lesion obtainable by inspection and palpation is to be preferred over the indirect methods of roentgenology. It is easy for these same radiologists to overlook the fact that as many as 68.6% of a sizable group of patients with primary malignant colonic tumor can be accurately given a diagnosis on the basis of sigmoidoscopic examination without benefit of x-ray. The long-established wisdom of routine digital examination of the rectum is well substantiated by the fact that by this means 58% of all colonic malignancies can be directly apprehended.

X-Ray Diagnosis: Of the 102 patients under scrutiny, all of whom were shown by one method or another to have primary malignant lesions of the large intestine, and all of whom were subjected to searching x-ray examination of the colon, the lesion though present was missed on roentgen examination in one instance. On subsequent review of film evidence a short, annular deformity of the transverse colon very close to the splenic flexure was discernible though almost completely hidden by superimposition on the descending colon. This constitutes an inexcusable diagnostic error because examination should not have been considered complete and satisfactory until all segments of the gut lumen had been adequately scrutinized, and obviously this was not the case. The lesion was detected 85% of the time on the basis of initial routine fluoroscopic and standard film examination. In 14% of the patients reexamination by various specialized methods was needed to establish the diagnosis. The predominance of the rectum and the sigmoid as sites of malignant large bowel lesions was once more proved, with 56.8% in the rectum, and 24.5% in the sigmoid (a total of 81.3%). Dividing the sigmoid lesions into those which occurred in the proximal half and those which occurred in the distal half, the distribution was found to be 13.7% and 10.8%, respectively (figure). Granting that the x-ray method of approach cannot be considered essential in detecting rectal lesions or those which involve the lower reaches of the sigmoid, since digital examination and the use of the sigmoidoscope are here completely efficient, lesions which fall just beyond the reach of the sigmoidoscope, within the upper part of the sigmoid, occur in considerable numbers, and it remains for the radiologist to provide an accurate means of detection. Although the occurrence of primary malignant tumors above the junction of descending colon and sigmoid is far less frequent, diagnosis except in the case of very advanced lesions cannot be accomplished with acuracy by any other method in wide usage today. The radiologist is justified in taking full credit for the apprehension of the one-third of primary colonic neoplasms.

Air contrast technique was employed in 75% of this patient group, a much higher incidence than its over-all use in all patients subjected to colon examination. The reasons for this are obvious, of course. The detection or the suspicion of abnormality on fluoroscopy is logically followed with more elaborate filming methods than are required when screen examination is obviously normal. Another factor in the wide use of air contrast is the fact that many patients complain of rectal bleeding, which might mean the presence of polypoid lesions.

As observed roentgenologically, the tumors in this group ranged from 1 to 12 cm. in length, with an average of 5 cm. The extremes were recorded in very few instances. Seventy-five per cent of the lesions were described as annular in character, 23% were polypoid in appearance. Evidence of dilatation of gut lumen proximal to the lesion was recorded in 24% as compared with signs of retrograde obstruction to the introduction of barium in 40%, complete in 10%. On initial examination 5% of all patients showed incidental evidence of wide metastasis.



Location of 102 malignant colonic tumors.

Microscopic Examination: In all but 3% of the patient group the diagnosis was confirmed microscopically, with adenocarcinoma being reported in all but six individuals. On a scale of four, 63 of 73 patients were shown to have tumors of Grade 2 anaplasia or differentiation. In 90 patients from whom gross specimens were available, the tumor had penetrated all coats of the gut wall in two-thirds. In 74 patients from whom tissue was available, extension to lymph nodes occurred with an incidence of 60%; extensive involvement of many nodes was reported in 31%.

It is discouraging to learn that 60% of the entire patient group were known to be dead 24 months after the close of the period under study. On the other side of the ledger, survival of 40% from this unselected group of all proved large bowel neoplasms is better than might be expected from many another type of malignant tumor. The statistical records from this institution show that of 303

patients with carcinoma of the rectum and 170 with carcinoma of other segments of the colon, followed sufficiently long to determine five year survival, 24.4% of the former and 28.8% of the latter were alive at the end of five years after the discovery of the lesion. Here again the figures are raw, including all patients regardless of stage of advancement of the lesion.

The bulk of the patients in this group received no direct treatment of their tumors before admission to this institution. Two per cent had undergone segmental resection operations; 9% had been irradiated.

Therapy and Prognosis: Diagnosis having been established in this group of 102 patients, surgical removal was attempted in the case of 76, with 47 abdominal-peroneal, 25 segmental, and 4 local resections. Palliative treatment in the form of colostomy for the relief of obstruction was carried out in 14, while in 12 no treatment whatever was attempted. At operation peritoneal implants of the tumor and frank metastasis to other organs were observed in 28 patients, while direct invasion of neighboring structures was seen in 20, and the suspicion of lymph node involvement was recorded in an additional 13. Thus, in the case of 61 patients the lesions could be considered to have attained far-advanced stage at the time of surgical intervention. This means that, of 90 patients subjected to surgical procedures, successful handling could be expected only in 29.

In the light of subsequent developments the detection of a palpable mass on external abdominal examination is grounds for a gloomy prognosis. In this entire group of patients, a frankly or equivocally palpable mass was reported in physical examination in 21 instances. In these the lesion was found to have involved all coats of the gut in 17. At the end of two years following the study, 16 patients were known to be dead. Signs of invasion or metastasis to other organs were observed on operation in 13 and multiple node involvement was demonstrated in 9.

Location of Lesion: The patient's admission of "change in bowel habits" was found to be entirely unrelated to the anatomical location of the tumor, whereas ribbon stools reported by patients in 14 instances were related to lesions of the rectum and sigmoid in 13.

Of 70 tumors observed on sigmoidoscopic examination, 57 were located in the rectum, 9 in the lower half of the sigmoid, and 4 above midsigmoid. Tumors detectable on digital examination were within the rectum in 51, in the lower sigmoid in 7, and in a single remarkable instance above the midsigmoid. Profuse bleeding through the rectum was associated with sigmoid and rectal lesion in 67 of 70 patients. In 32 of 35 patients with ribbon stools the location of the tumor was in the rectum and sigmoid, while 9 out of 10 times when the symptom of alternating constipation and diarrhea was reported the disease was confined to the lowermost segments of the large intestine.

COMMENT

The important clinical dividends of x-ray examination of the large intestine are numerous, not the least of which are the reliable appearances of normalcy in patients who for one reason or another are suspected of harboring significant colonic disease. Approximately 25% of all patients subjected to x-ray examination of the colon may be expected to show some recognizable deviation from the allowable normal. Findings in this category cover a wide range of situations, the most numerous single entity being diverticulosis, commonly restricted to the upper reaches of the sigmoid. Although diverticulosis is usually considered to be a bland and a relatively insignificant deviation from normal, documentary proof of its existence is of value in outlining the care of the patient, and is of particular importance when it is associated with inflammatory disease of the neighboring gut wall. In matters of initial diagnosis, evaluation, and subsequent treatment, x-ray investigation is invaluable in the case of ulcerative colitis. Fortunately, the diseases properly grouped in this category occur with relative infrequence although the symptoms ordinarily associated with the situation are by no means uncommon.

Roentgenologic methods of examination play a very important part in the discovery, the localization, and the determination of individual characteristics and the extent of primary malignant tumors of the large intestine. In no wise to be considered a competitor of the more direct procedures of digital examination and sigmoidoscopic exploration, roentgenologic methods should be employed as an adjunct, even in the case of rectal tumors which are readily accessible from the exterior, in order that the status of the colon at higher levels may be determined prior to treatment. Above the midsigmoid level, where digital examination is no longer serviceable and where sigmoidioscopic approach has only limited value, it remains for x-ray methods to bear the main burden of detection and correct diagnosis. The more reliable symptoms and physical signs are to be found in those instances where direct examination through the rectum is most effective, and one reliable physical finding, externally palpable abdominal mass, is almost always an ominous indication of advancement of the disease to the hopeless stage.

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A Great Physiologist.—Starling, teaming up with Bayliss, corroborated Pavlov's finding that the movements of the intestine were controlled by the autonomic nervous system. They then turned to the question of the secretion of juices by the pancreas. Were these secretions also controlled by nerves? Pavlov's work suggested that they were, and Bayliss and Starling set out to try to prove this hypothesis. But they made a completely unexpected discovery, in a historic experiment, which had shown, and Starling had instantly realized, that the body possessed a chemical means of communication—a blood-borne chemical signal which, like a nervous impulse, could trigger an organ into action. Starling and Bayliss soon identified this chemical and gave it the name secretin. They found that it came from the wall of the intestine. When acid from the stomach enters the intestine, it causes the wall to liberate secretin. The substance then travels in the blood stream and stimulates the pancreas to pour out the pancreatic juices that aid in the digestion of food. Secretin was not the first internal secretion to be discovered; physicians were already acquainted with adrenalin, thyroid extract and some of the other powerful substances produced by the glands. But Starling was the first to grasp the master role that these substances played in the communications and regulation of the body, and it was he who gave them the general name of hormones—a word suggested by one of his fellow workers.—Ralph Colp Jr., Ernest Starling, *Scientific American*, October, 1951.

POSTPHLEBITIC AND VARICOSE VENOUS STASIS

CLINICAL RESULTS OF TREATMENT BY PULSATILE AIR-PRESSURE PRINCIPLE

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A disturbance in the return of venous blood and lymph from the subcutaneous region of the lower part of the legs is one of the commonest pathological conditions found in man. This expresses itself usually in one of two ways, namely, varicose veins or postphlebitic lymphedema. It is difficult to obtain precise figures for the incidence of these conditions, but any physician who treats adult patients knows the extreme frequency of their occurrence. In a survey of 1,000 young industrial employees, it was found that 10% had definite varicose veins. In an older group of department store employees, all over 40, the incidence had risen to 40% among the men and 70% among the women.[1] The corresponding figures for postphlebitic lymphedema cannot be cited, but this is an extremely prevalent condition.

VARICOSE VEINS

In the development of varicose veins the superficial veins enlarge because of the incompetence of their valves. Thus, in the erect position these veins support a column of blood from the heart to the lower part of the leg. The enlargement of the veins is relatively unimportant, but the increased orthostatic pressure and stasis in them slows the normal capillary circulation and greatly increases the pressure within the capillaries. As a result of these two factors capillary function is seriously interfered with. There is excessive loss of fluid from the blood stream to the extracellular spaces. The accumulation of protein-rich fluid and the impairment in the exchange of oxygen and metabolites lead eventually to local induration, pigmentation, and ultimately may result in the development of the typical stasis ulcer.

Varicose veins are always associated with a destruction or incompetence in their valves. However, there are two types of such valvular dysfunction. In the first type only the valves in the main stem veins of the saphenous systems are incompetent. The communicating veins (called perforators), which join the superficial and deep system of veins in the lower part of the leg, have valves which normally allow blood to flow only from the superficial to the deep veins. The valves in these perforators are competent in this first type of dysfunction. This is readily demonstrated by the Trendelenburg test. After emptying the veins by elevation of the extremity, they fill almost instantly on the patient's standing up. But with compression of the subcutaneous veins by a tourniquet applied lightly to the thigh, if the perforators are competent the refilling of the veins requires 30 seconds or more, as it does in the normal person. In cases of the second type of dysfunction, namely, incompetent perforating veins, the filling is rapid in spite of the compression of the superficial veins. In this case the perforating veins now allow the filling of the superficial veins from the deep veins. Such differentiation on the basis of the competence or incompetence of the perforating veins is of extreme clinical importance. In cases of the first type (competent perforators), the harmful effects of the venous stasis can be easily remedied by ligating the main superficial venous trunk (the great saphenous vein and in some cases also the lesser saphenous vein) above all branches. With competent perforators the blood in the superficial veins is drawn into the deep veins by the pumping action of alternate contraction and relaxation of the muscles in the lower part of the leg. In cases of the second type of dysfunction, however, in which there is gross incompetence of the valves of the perforating veins, the venous stasis is not permanently benefited by such ligation. The incompetent perforators no longer check the full hydrostatic pressure when the patient stands from being passed on to the superficial veins. Muscular action now only causes a to-and-fro motion of the blood through the perforators rather than a cyclical flow from the subcutaneous into the deep veins. The superficial veins have lost this most important method of moving the blood upward against the force of gravity.

POSTPHLEBITIC LYMPHEDEMA

In the acute stage of a case of femoroiliac thrombophlebitis, a clot forms in the femoral vein, but the inflammatory process also involves the deep veins in the lower part of the leg. In the severe cases, which result in a chronic postphlebitic lymphedema, the valves of the perforating veins of the lower part of the leg are injured by the inflammatory reaction. At first the symptoms are due to obstruction of the superficial or common femoral vein, the inflammatory reaction in the veins, and probably a reflex sympathetic vasoconstriction affecting the arterioles. After the subsidence of the acute symptoms, the venous obstruction is gradually overcome by the development of collateral venous channels and usually the canalization of the organized thrombus. Arterial vasoconstriction disappears, and the residual difficulty is primarily due to the destruction of the valves in the perforating vessels. The end stage in such severe cases is again then exactly the same as in cases of the second type of varicose veins, namely, an incompetence of the perforating veins resulting in a serious venous stasis in the superficial veins of the lower part of the leg. In addition, there may also be a partial obstruction to the lymphatic return due to involvement of the main trunk lymphatics in the inflammatory reaction surrounding the femoral vein at the time of the acute thrombophlebitis. Often the superficial veins do not show the obvious enlargement that is seen in cases of primary varicose veins. This

From the Department of Surgery, The University of Rochester School of Medicine and Dentistry.

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1. Lake, M.; Pratt, G. M., and Wright, I. S.: Arteriosclerosis and Varicose Veins: Occupational Activities and Other Factors; Study of 536 Persons, Divided into Age Groups, Who Had Been Sitting, Standing, Walking or Climbing Stairs for 10 Years or More at Their Work, J. A. M. A. **119**: 696 (June 27) 1942.

is frequently due to fibrotic changes in the wall of the vein or in the surrounding subcutaneous tissue produced by the inflammatory process, the so-called "thick walled" varicose vein in contradistinction to the thin-walled type that develops without inflammatory reaction in spontaneous varicosities. The primary pathological physiology of the postphlebitic lymphedema is an orthostatic venous stasis sometimes combined with a partial obstruction to the lymphatic return. If the lymphedema continues unrelieved, subcutaneous induration, pigmentation, and ulceration are likely to follow in the course of time.

TREATMENT OF VENOUS STASIS

The problem in treatment is to overcome the harmful effect of the orthostatic venous hypertension and stasis and the associated lymphedema. Before treatment is started it is of paramount importance to determine whether these factors are due only to incompetence of the main stem veins or whether there is a major degree of incompetence of the perforating veins. If the incompetence is limited to the valves of the greater saphenous system proper and does not involve the perforators, then high ligation of the great saphenous vein near its junction with the femoral and above all of its branches will overcome the venous stasis and will prevent the resultant train of serious sequelae. If the varicosities have become sufficiently enlarged, the veins may not return to their normal caliber, and excision or sclerosing injections may be desirable for cosmetic reasons but are not necessary for overcoming the venous stasis. However, when a major degree of incompetence of the perforators exists, then such ligation will achieve little or no benefit to the underlying venous stasis. Although the orthostatic reflux of blood into the saphenous system through its main trunk is blocked, such filling occurs immediately through the enlarged and patent perforators, and the powerful pumping action of muscular contraction no longer is effective in emptying the superficial veins. In any severe case of postphlebitic lymphedema, it can be assumed that the perforators are grossly incompetent.

Many attempts in the past have been made to overcome venous stasis associated with incompetent perforators. These measures fall into three groups: (1) external compression, (2) sclerosing venous injections, and (3) ligation of the incompetent perforators together with high ligation of the saphenous trunk.

External Compression.—There have been many different forms of external compression—elastic bandages, elastic stockings, gum-rubber bandages, plain or elastic adhesive-tape strapping, and the Unna paste boot are the ones which have been most helpful. They all have one primary defect, namely, that the lower part of the leg is not spherical in its cross section (especially in its lower third) so that uniform compression cannot be obtained; also, the method of application is not uniform so that the same degree of pressure is not attained at all times. In order to obtain a more uniform pressure, some spongy material may be used under a tension bandage, the most popular one being sponge rubber. In this way a more nearly uniform pressure is obtained just above the ankle where stasis ulcers are most likely to occur.

Sclerosing Venous Injections.—Injection of the veins with a sclerosing solution will produce a clot which, if it completely occludes all incompetent perforating veins, will give temporary relief. There are three serious objections to this method however: First, the occlusion of the perforating veins is frequently incomplete. Second, even when occlusion is complete, canalization of the organized thrombi usually occurs. Third, the reaction to the thrombosis may still further injure the valves of perforators which were only partially incompetent. This method of sclerosing injections has enjoyed great popularity in the past on account of the temporary improvement that usually followed it. But on occount of the defects previously mentioned, it has today been largely discarded as the preferred method of treatment for venous stasis associated with incompetent perforators.

Ligation of Perforators.—There are varying degrees of incompetence of the perforating veins. When such incompetence is not too severe, ligation of the chief incompetent perforating veins together with high ligation of the great saphenous vein may give a good clinical result. However, when there is a major degree of incompetence of the perforators, such limited ligation of individual and large perforators is practically valueless for a permanent effect. Other incompetent perforators rapidly enlarge, and within a very few months the venous stasis is as severe as it was previously. From surgical experience this was gradually learned, and the surgeon became more and more radical in his attempt to divide incompetent perforating veins. Even stripping out the entire length of the great saphenous vein from the groin to the ankle does not permanently interrupt the incompetent perforators. The operation of quadrant dissection from the knee to the foot with the ligation of all visible perforating veins directly on or under the fascia is the ultimate in such a surgical attack. Such a major procedure is the only operation worth any consideration in the treatment of the severe forms of postphlebitic and varicose stasis when associated with major incompetence of the perforating veins. There are two objections to such a major procedure: First, such a widespread dissection in tissue whose lymphatics may harbor bacteria can result in rather serious wound infections. Second, even with this very extensive surgical dissection it is questionable whether all perforators, particularly those at the junction of the sole with the lateral margins of the foot, will be ligated.

In summary then, all previous methods of treatment have had serious defects, and many of the severe cases of venous stasis have not been checked by them. This point is well illustrated by the backlog of such cases that any large vascular clinic has—patients who have been returning regularly for many years with recurrent or continuing stasis ulcers, induration, stasis dermatitis, and repeated attacks of recurrent cellulitis.

When this problem was confronted in 1938 after the standard methods of compressive dressings, sclerosing injections, and a widespread dissection of the perforating veins had failed to prevent the recurrence of a postphlebitic stasis ulcer, it was decided to apply a regulated air pressure over the lower part of the leg. This was done by constructing a legging of an inelastic material containing an inflatable rubber bladder, which was pumped up after the legging was put on the leg. Then not only is there applied to the skin a controlled and uniform pressure

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throughout the extent of the rubber bladder, but also when the patient walks there is a rhythmical rise in the pressure with each contraction of the muscles. The legging is constructed according to this principle of pulsatile air pressure ("aero-pulse" principle). In essence, a substitute for the deep fascia has been placed outside the skin and subcutaneous tissues, and the powerful pumping action of muscular contraction compressing the veins and pushing the blood upward against gravity is applied by this means to the superficial veins throughout the lower part of the leg. After some experimentation as to the optimum pressure in the first very difficult case, this method of treatment resulted in the complete healing of the ulcer without interruption of the arduous use of the leg at any time. During the next 10 years in several other patients who had failed to respond to the standard methods of treatment the disease was also successfully controlled by this air-pressure method. The chief objection to the application of the method was the difficulty in having the legging made. In 1948 such a legging became available commercially,[2] and since that time my series of patients with venous and lymphatic stasis treated by this method has increased to over 350. The preliminary report on the results obtained in the first 50 cases was published in 1949.[3] The further experience with this method justifies drawing certain definite conclusions concerning its results.

RESULTS OBTAINED WITH TREATMENT BASED ON THE PULSATILE AIR-PRESSURE PRINCIPLE

Swelling.—The swelling due to postphlebitic or varicose stasis in the lower part of the leg can be adequately controlled. Acute inflammatory swelling, on the other hand, is not always controlled by the air pressure. Consequently, if there is a component of the swelling due to cellulitis or other infection, the infectious element may have to be controlled by the usual methods before the stasis lymphedema can be adequately overcome. However, if the infection is not too virulent, it has been found that it will frequently subside spontaneously while the patient is ambulatory after the legging has been applied. As a simple rule of thumb, it can be stated that any swelling which will go down overnight will almost surely be adequately controlled by use of the pulsatile air-pressure principle. This has been found to be true in my series of 220 cases of stasis lymphedema, whether the swelling was postphlebitic or due to varicosities with incompetent perforators.

Induration.—Induration of the skin and subcutaneous tissues is a characteristic feature of the latter stages of venous stasis in the lower part of the leg and is often accompanied by pigmentation of the skin. This induration is due to a chronic reaction in the tissues leading to a gradual formation of fibrous tissue and is often the seat of a chronic cellulitis or of recurrent acute inflammatory episodes. It is also frequently the precursor of an obstinate stasis ulcer. In many of the patients with postphlebitic lymphedema a rather marked degree of induration had already developed before treatment with the pulsatile air-pressure ("aero-pulse") legging had been initiated. The subcutaneous tissues were hardened and the skin thickened and corrugated. This condition does not respond quickly to treatment with the pulsatile air-pressure legging as the lymphedema does, but gradually there is a softening of the subcutaneous induration, the skin becomes smoother and more pliable and obviously in a better state of nutrition. Even the pigmentation of the skin may become lighter. The fully formed fibrous tissue probably never disappears, but the extent to which these chronically indurated areas could become softened after 6 to 12 months treatment with the pulsatile air-pressure legging has been a most agreeable surprise. In most patients with severe long-standing lymphedema some degree of induration has developed. Forty-three were chosen out of this series as showing an extensive degree of induration as a major characteristic. All of these patients showed a marked improvement in the extent and degree of induration.

Ulcers.—Postphlebitic and varicose ulcers in the lower part of the leg are regularly healed while the patient is ambulatory. The granulating base rapidly takes on a healthy red appearance, the surface infection of the ulcer is usually overcome without any additional treatment, the granulations fill the concavity of the ulcer, and the epithelium then rapidly grows across this flat surface. The only exceptions which I have found to this rule are the following:

Ulcer Base Unable to Support Epithelium: In many instances the ulcer base has appeared to be such thick scar tissue that it would never support epithelium. However, though the healing of such fibrotic ulcers may be slow, in only two instances have such stasis ulcers failed ultimately to heal. Ulcers that have been open for 5 to 15 years have finally healed firmly without excision of the ulcer base or grafting. In one case the ulcer base was directly on the tibia so that granulations could not develop. The edge of the ulcer started to grow nicely, but its center remained open because the base was formed by the periosteum. This ulcer was promptly healed and has stayed closed by the application of a split thickness graft and the use of the pulsatile air-pressure legging as soon as the patient was mobilized. This patient had been grafted twice before, with a successful result while she remained in bed but with rapid reulceration on mobilization. The last graft would undoubtedly have suffered the same fate if the element of venous stasis in the surrounding tissues had not been controlled by the legging.

Virulent Surface Infection: In about 5% of the cases of stasis there is a virulent surface infection which has to be brought under control before the ulcer will start healing. If the granulations do not promptly become healthy or in some cases if the granulating surface of the ulcer appears quite necrotic, appropriate treatment for the infection is started immediately. In many of these cases—whatever organism is isolated on culture—the infection will frequently respond to the use of bacitracin. Usually the infection can be controlled without the patient being off his feet, but occasionally before the ulcer will improve it is necessary for the patient to stay in bed to get the infection under control. A very virulent fungus infection is also a complication which has occasionally re-

2. This appliance is manufactured under the name "aero-pulse" legging by the Surgical Research Corporation, Albion, N. Y.

3. Scott, W. J. Merle, and Radakovich, M.: Venous and Lymphatic Stasis in the Lower Extremities; I. A Test for Incompetence in the Perforating Veins; II. A Simple Method of Adequate Control, Surg. 26: 970, 1949.

quired active treatment before the use of the legging can be started. Usually, however, use of simple fungicidal methods are adequate while the patient is ambulatory and wears the legging. This point will be discussed more fully under the complication of dermatitis.

Local Complicating Factor Producing Inflammatory Edema: As previously stated, inflammatory edema may not be overcome adequately by the air-pressure effect. If there is an extensive cellulitis surrounding the ulcer, treatment of the inflammatory condition may be necessary before the venous stasis will be controlled locally and the ulcer will start to heal. Also, occasionally a localized thrombophlebitis in a vein beneath or near the ulcer may cause inflammatory swelling that will temporarily prevent the healing of the ulcer. In exceptional cases even after an ulcer has been healed for a long time by use of the pulsatile air-pressure legging, a small painful area may occur which then breaks down into a small open ulcer—in spite of the continued use of the legging and apparently without any mechanical failure. In two such instances a tender, thickened cord was felt under the area which disappeared within about three weeks, and the ulcer then healed again promptly. Apparently this was a localized phlebitis in one of the dilated veins in the region of the ulcer causing an inflammatory reaction that temporarily made the air pressure ineffective at that point. However, in only one such instance has such a local superficial phlebitis prevented the patient from continuing to be ambulatory. In four cases there has been a flare-up of a previous widespread cellulitis after the ulcers have healed, and the patients were apparently using the legging properly. In all of these cases the cellulitis had been severe and recurrent before the initiation of the treatment, with a marked induration of the surrounding subcutaneous tissues at the time treatment was started. Undoubtedly under these conditions bacteria are still present for many months in the scar tissue, and until they disappear they may cause a recurrence of the cellulitis even while the venous stasis is being properly controlled. This is one very important reason for controlling stasis lymphedema before the onset of recurrent attacks of cellulitis. All of these recurrent attacks during treatment occurred within a year after the use of pulsatile air-pressure legging was started. Apparently the likelihood of such recurrences of cellulitis is greatly reduced after adequate control of the venous stasis for several months.

Rubber Sensitivity: In a few instances after the legging has been applied and the immediate response has been good, there has developed, usually suddenly, a severe reaction of the skin around the ulcer, the skin becoming a deep-red color and the ulcer itself becoming inflamed. We have encountered three such cases, in each of which the skin was found to be extremely sensitive to rubber. After the reaction subsided, protective measures to insulate the rubber bladder from any indirect contact with the skin were initiated, and the ulcers healed promptly. Several other cases of milder rubber sensitivity have been found in which the skin directly under the rubber bladder became reddened and itched; this reaction also disappeared on the prevention of any indirect contact (through moisture) with the rubber of the bladder. My colleagues and I now inquire in all instances concerning rubber sensitivity and if necessary carry out a patch test of the patient's sensitivity to rubber. When there is only a mild sensitivity, it is usually sufficient to have the patient wear a woven-cotton bandage applied without stretch under the legging. When there is marked sensitivity, the bladder has been enclosed in a plastic envelope to completely insulate it from the skin.

Eczematoid Dermatitis: Dermatitis is a frequent complication of a stasis ulcer. When this takes an eczematoid form with extensive weeping, it may be impossible to apply the legging immediately. Although the dermatitis is kept up by the venous stasis and the legging effectively controls the latter, the slight increase in warmth under the legging and the decreased evaporation from the skin favors a flare-up of the eczematoid dermatitis. By the use of a woven-cotton bandage worn under the legging without stretch, merely to allow some evaporation and absorption of fluid, the patient with less severe eczematoid dermatitis can usually begin the use of the legging at once. Patients with severe eczematoid dermatitis require active treatment of the weeping phase before the legging can be tolerated. Bacterial or fungus infection must be combated actively by appropriate methods. A few of the patients with the severest form of eczematoid dermatitis require in addition a period of bed rest. This, however, is the exception. For patients with severer eczematoid dermatitis the leg is acclimated gradually to the use of the legging (it being worn for an hour at a time after which the skin is exposed to the air), and the various adjuncts to treatment are used. In only three cases, however, has the use of the legging been permanently discontinued on account of an intractable eczematoid dermatitis, and in these instances its use was discontinued by the patients after inadequate trial. Stasis dermatitis is frequently a very resistant complication of venous stasis, which frequently tries the patience of both the victim and the physician. This is occasionally true even when the venous stasis is controlled by the use of pulsatile air-pressure legging. However, if the weeping phase can be controlled, the stasis dermatitis, resistant to all forms of treatment while the stasis continued, can be cleared up.

Of 105 stasis ulcers in the lower part of the leg, 89 have been soundly healed by treatment with pulsatile air-pressure legging. With a large proportion of these ulcers this result had failed to be achieved by the standard methods of treatment, and many of them had not been firmly healed for at least three years. When a stasis ulcer fails to start healing promptly after application of pulsatile air-pressure legging, unless one of the above-mentioned factors is present to retard healing serious doubts should be entertained as to the accuracy of the diagnosis. Other causes of chronic ulcer of the lower part of the leg may be operative in the presence of varicosities. Certain specific infections (bacterial and mycotic), neoplastic infiltration of the skin, ulcers due to blood dyscrasias and to arteriosclerosis are among the commoner causes of lesions that might be mistaken for stasis ulcers.

PRECAUTIONS IN TREATMENT WITH PULSATILE AIR-PRESSURE LEGGING

Mechanical Faults.—The benefit from use of the legging depends on the air pressure exerted against the skin and subcutaneous tissues. The optimal amount of pres-

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sure has been learned empirically to be about 35 mm. of mercury in nearly all cases. Pressures considerably above or below this optimum will vitiate the beneficial result, and an excessive pressure may be actually harmful. There are two common faults whereby the proper pressure is not obtained: (1) incorrect fitting and (2) incorrect inflation of the legging.

Incorrect Fitting of Legging: The outer casing of the legging is inelastic. It necessarily has to be so in order to serve its function as an artificial external fascia. This casing must be large enough so that the rubber bladder when inflated will contain an air pocket at least ½ in. (1.3 cm.) wide throughout its length. If the legging is fitted too snugly so that such an air pocket is not obtained when the bladder is inflated, an excessive pressure may be present at some point. On the other hand, greater width of the inflated rubber bladder does no particular harm. It merely makes the leg appear unnecessarily large. In measuring for the legging one includes allowance for the space to be taken by any dressings, woven-cotton bandage, and so forth. The legging should be checked after its inflation to make sure that the air pocket is of sufficient breadth. For example, the casing should never press directly on the dressings over an ulcer.

Incorrect Inflation of Legging: The inflation of the legging to the optimum pressure is achieved by a pressure regulator on the inflator, which automatically gives the predetermined pressure. The mechanism is quite simple and can easily be operated by the patient. The patient should be checked as to his method of inflation to make sure that the proper pressure is being obtained. Over- or underinflation will prevent reliable results being obtained.

Topical Treatment of Ulcer.—Practically any local treatment desired can be applied in conjunction with the control of the venous stasis by use of the pulsatile air-pressure legging. Usually no special local treatment of the ulcer is necessary. If an ointment is used, the dressing should be covered by a square of some impervious material, such as cellophane, to prevent the grease of the ointment from working through the dressing to the rubber bladder.

An increase in watery discharge from the ulcer frequently occurs for a few days when the pulsatile air-pressure legging is first applied. This occasions no concern; in fact, it is probably beneficial in helping to clear up the surface infection. It is probably only a manifestation of the way in which the air pressure drives out the excess extracellular fluid in the tissues. The dressings should, however, be changed frequently enough so that they will be able to absorb all such fluid. After the first three or four days the surface usually appears cleaner, the granulations brighten up, and fluid exudation decreases.

Fungus Infection.—Some fungus infection is a frequent complication of a stasis ulcer or lymphedema. It may be observed as a patchy scaling of the skin that only occasionally flares up, or it may be a very obvious and extensive fungus dermatitis. On account of the prevalence at least of such fungus contamination of the skin, some simple measure of fungus control is usually instituted when pulsatile air-pressure legging is used. In my series of cases zincundecate (desenex®) powder was usually prescribed for such prophylactic fungus control. The treatment of a severe fungus dermatitis may tax the medical ingenuity of the physician. It should always be attacked vigorously until controlled.

Moisture.—Unabsorbed moisture should never be allowed to accumulate on the skin. This problem usually occurs in conjunction with an eczematoid dermatitis, either as the chief manifestation of the venous stasis or as a complication of a stasis ulcer or lymphedema. If the weeping is not too severe, the moisture may be absorbed by a woven-cotton bandage of the pressure (ace®) type applied without stretch under the legging. This bandage should be changed as frequently as necessary to keep the skin fairly dry. As in the case of ulcers, there may be a mechanical increase in the outpouring of fluid during the first few days. If, however, the patient can be helped over this initial period without an exacerbation of the dermatitis, the beneficial effect of overcoming the venous stasis may cause a gradual improvement in the dermatitis, with its eventual control as the gratifying result.

In the severer cases auxiliary methods should be employed, such as the use of dilute potassium permanganate soaks, methylrosaniline chloride (gentian violet) applications, fungicidal agents, and so forth. The skin may require acclimatization to the legging by alternating hourly periods of its use and exposure to the air.

While eczematoid dermatitis is the most frequent cause of trouble, with moisture accumulating under the legging, in some instances an excessive perspiration may cause a skin eruption. Use of absorption methods will usually control this difficulty. In excessively hot weather for a few patients periods of drying the leg in the air may be required. In general, the legging is usually well tolerated even in hot weather by most patients. There is much less difficulty with the legging from this than from the use of gum-rubber bandages, for example.

CONTINUANCE OF USE OF LEGGING

The pulsatile air-pressure legging is only a mechanical appliance which overcomes the venous stasis while it is in use. Usually the damage to the valves in the varicose veins or in the postphlebitic state is a permanent one. Therefore, the venous stasis will return on discontinuance of the use of the legging. Patients have to be energetically warned of this fact since the prompt healing of the ulcer and relief of all symptoms frequently induces in them a false sense of security, and they discontinue all treatment. For a time the improved condition of the skin may withstand the harmful effects of the untreated venous stasis, but if the incompetence of the valves is a major one, the serious sequelae of the uncompensated venous stasis are almost sure to return. After the ulcer has healed, the induration receded, and the nutrition of the skin has been improved, usually the patient can be allowed to go without the legging 10 to 25% of the time he is up and about on his feet. Of course, the legging can be taken off at any time when the patient is willing to keep his foot elevated to body level.

REPORT OF CASES

CASE 1.—In a 46-year-old automobile mechanic, W. P., a thrombophlebitis developed in the left leg in 1947 after an injury. Since that time he has had postphlebitic lymphedema in the left leg, and a few months after the phlebitis occurred an ulcer of the lower part of the left leg developed, which has remained open since that time. Aching pain in the ulcer was a prominent

and disabling feature. In January, 1951, the ulcer was approximately 7 by 5 cm. in its diameters and 0.5 cm. deep. Surrounding the ulcer was an area of stasis dermatitis with moderate induration. There were visible varicosities in the left leg with markedly incompetent perforators. The patient had used various types of compressive dressings and paste boots without avail. On Jan. 5, 1951, the pulsatile air-pressure legging was applied. Two weeks later the ulcer already showed marked improvement, with considerable filling in of the base with healthy granulations and good beginning growth of epithelium at the edge of the ulcer. Six weeks after this treatment was started the ulcer was painless and was approximately one-third its original size. The patient had returned to his regular occupation. The ulcer was completely healed in approximately three months, and the stasis dermatitis and induration surrounding it had disappeared; the lymphedema was adequately controlled.

CASE 2.—W. B., a housewife, 73, had a severe attack of thrombophlebitis in the right leg 27 years ago, which was followed shortly afterwards by the occurrence of thrombophlebitis in the left leg. She had always had a lymphedema of the right leg since the occurrence of the thrombophlebitis, but the swelling of the left leg receded to reappear 10 years ago. Stasis ulcers of the right leg developed eight years ago. At first these would heal and break down again with the use of compression dressings. For the last four years the ulcers of the right leg have remained open, except for a period of 10 weeks when the patient was put at complete bed rest and the ulcers were healed. They promptly broke down again in spite of the use of compressive dressings, and they now are completely incapacitating the patient. The left leg went through a similar cycle, and the ulcers on this leg have remained open for the last two years. In March, 1950, the patient had four stasis ulcers on the lower part of the right leg and three on the left. Three of these ulcers were very deep, directly over the tibia, and apparently dead bone formed the base of the ulcer. Pulsatile air-pressure leggings were applied to both legs on March 17, 1950. In one month granulations appeared at the base of the ulcers except when this was on the bone, and the skin at the edge of the ulcers had already begun to grow. Two months after treatment the smaller ulcers had nearly healed; six months after treatment was started the ulcers of the left leg had completely healed, the smaller ulcers of the right leg had healed, but two larger ulcers had filled in with granulations through which small sequestra of bone made their way. One year after treatment was started all ulcers were healed except for two small crusted areas less than 0.5 cm. in diameter through which small spicules of dead bone still occasionally were extruded. After the remaining small fragments of dead bone are extruded, these ulcers will undoubtedly also heal.

CASE 3.—D. M., a housewife, aged 30, was in the sixth month of her fourth pregnancy. Varicose veins developed during her first pregnancy and increased in size during each succeeding pregnancy. After delivery the distention of the varicose veins receded somewhat. An ulcer first appeared in the lower part of the right leg one month previously. It had become very painful and failed to heal in spite of the use of elastic compression dressing. Examination showed a pregnancy of about the sixth month and marked varicose veins in the lower part of both legs. On the inner aspect of the lower part of the right leg there was an open ulcer about 1 in. (2.5 cm.) in diameter, with a purulent base and surrounded by a large area of marked inflammatory reaction. A pulsatile air-pressure legging was applied on May 17, 1949. The inflammation and pain began to subside within three days, and the ulcer was completely healed within three weeks.

CASE 4.—In F. R., a trained nurse, 71, bilateral thrombophlebitis developed in the left leg in 1946 after a fracture of the left patella. Shortly after the phlebitis occurred, an ulcer developed above the left external malleolus on the lower part of the left leg, which was treated by use of an Unna paste boot and healed. Six months later stasis dermatitis with an ulcer in the lower part of the right leg and swelling developed. An Unna paste boot was applied but had to be removed on account of pain. The patient then had a bilateral high saphenous vein ligation. After this, with the aid first of treatment with pressure bandages and then elastic stockings, the ulcer of the right leg healed completely by February, 1948, but recurred four months later. After sclerosing injection of the vein it healed slowly, and the patient returned to work in two months. In May, 1950, she had a recurrence of an inflamed, indurated tender area above the left internal malleolus, which was treated with use of a well-fitting elastic stocking. In spite of this, a painful ulcer developed in this region on the left. After sclerosing injection into the vein the ulcer appeared better for two weeks and then broke down again in spite of sponge-rubber pads, new pressure bandages, and so forth. On Oct. 17, 1950, pulsatile air-pressure legging was applied to the left leg, and within one week the ulcer had completely healed and the patient had returned to work. Two months later the skin over the ulcer area was of normal color, of good texture, and no longer painful and has remained so.

CASE 5.—J. M., a retired police officer, 61, had had bilateral varicose veins for many years. Five years previously he had an injury to the left shin and ever since then has had recurrent ulcers in this area which would never heal solidly. He had a second accident to approximately the same area two and one-half years previously that was followed by persistent swelling of this leg. A large, painful ulcer had developed on the anterior aspect of the lower part of the left leg with an acute cellulitis in the region surrounding it. In spite of repeated sclerosing injections of the varicose veins and the use of elastic stockings and pressure bandages, it had been impossible to keep these ulcers healed, and the acute inflammatory reaction was incapacitating him. Examination showed one large ulcer and multiple smaller excoriations in the lower part of the left leg with a surrounding zone of induration and acute inflammation. Large varicose veins were present with grossly incompetent perforators and lymphedema of the of the lower part of the left leg. A diagnosis of stasis and postphlebitic ulcer with postphlebitic lymphedema and induration and varicose veins with incompetent perforators was made. A pulsatile air-pressure legging was applied on Sept. 30, 1949, which resulted in prompt relief of pain. Treatment was interrupted by a sensitivity reaction to rubber, but the ulcer had healed by Nov. 12, 1949, and the inflammatory reaction had entirely subsided. The ulcer has remained healed to date (21 months later), and the postphlebitic lymphedema and induration has been completely controlled.

CASE 6.—B. B., a housewife, 59, had typhoid fever at the age of 21 complicated by a thrombophlebitis of the left leg. Ever since that time she has had swelling of the left leg, which increases during the day and goes down overnight. Most of the past 22 years she has had an ulcer on the lower part of the left leg. This has been treated with various forms of compression bandages and operations, including ligation and seven skin graftings. In spite of this treatment the ulcer has constantly recurred. The longest period in which it remained healed was one and one-half years. It has remained unhealed for the last five years. Examination revealed swelling of the lower part of the left leg and marked varicose veins with incompetent perforators. A painful ulcer with a dirty purulent base about 7.5 x 4 cm. was present on the inner surface of the lower part of the left leg just above the ankle. A diagnosis of postphlebitic ulcer and lymphedema was made. A pulsatile air-pressure legging was applied on July 22, 1949. Marked improvement with loss of pain occurred within three weeks, and the ulcer was completely healed for the first time in five years six weeks after this treatment was started. To date (22 months later) the ulcer has remained healed, and the induration in its base has subsided.

CASE 7.—H. F., a commercial artist, 45, three years previously experienced a sudden occlusion of the right popliteal artery, probably from a thrombosis on an atheromatous plaque. Shortly after the arterial occlusion occurred, bilateral femoral thrombophlebitis developed. Since that time the patient has had marked intermittent claudication from the arterial occlusion and postphlebitic swelling in the lower part of both legs. In August, 1948, an indurated area just below the right ankle developed, which broke down into two open, indolent ulcers in February, 1949. These failed to heal with the use of compression bandages. There was no pulsation below the femoral artery of the right leg. A diagnosis of occlusion of the right femoral artery and postphlebitic ulcer of the lower part of the right leg was made. On July 22, 1949, pulsatile air-pressure legging was applied to the right leg. This effectively controlled the postphlebitic swelling and produced a healing of the open ulcers within three weeks. There was no appreciable effect on the intermittent claudication due to the impairment of arterial flow.

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CONCLUSIONS

In cases of varicose veins the competence or gross incompetence of the perforators is of fundamental clinical importance. If the perforators are competent, high saphenous ligation will overcome the venous stasis. In cases of severe postphlebitic lymphedema it can be assumed that the perforators are grossly incompetent and that the orthostatic venous hypertension cannot be overcome by the pumping action of muscular contraction in the lower part of the leg. All previous methods of treating venous stasis with gross incompetence of the perforators have had serious defects. By the application of a regulated pulsatile air pressure to the lower part of the leg, the venous stasis can be overcome. Swelling due to postphlebitic lymphedema or to varicose venous stasis is adequately controlled by this method. Inflammatory swelling is not necessarily adequately controlled. The induration of the skin and subcutaneous tissues, so characteristic of the later stages of venous stasis in the lower part of the leg, gradually recedes. Uncomplicated postphlebitic and varicose ulcers in the lower part of the leg are regularly healed while the patient is ambulatory. Certain local complicating factors which may prevent rapid healing are outlined, and methods are cited for overcoming these conditions. Certain precautions which should be taken in order to obtain satisfactory results with this method of treatment are listed. Application of the pulsatile air-pressure ("aero-pulse") principle in the treatment of postphlebitic and varicose venous stasis has been successful in severe cases, when all previous standard methods have failed.

260 Crittenden Blvd.

PROFOUND ACCIDENTAL HYPOTHERMIA

Harold Laufman, Ph.D., M.D., Chicago

My associates and I had the unusual opportunity of studying a patient who had been subjected to severe freezing conditions. We believe this case to be unique insofar as the degree of hypothermia was more profound than is ordinarily followed by recovery in the human or in most animals.[1] The critical level in humans is unknown, but it is commonly considered to be between 68 and 74 F.[2] Although some nonhibernating experimental animals have recovered from more profound hypothermia than did this patient, their periods of hypothermia were considerably shorter.[3]

CASE REPORT

At 8 a. m., Feb. 8, 1951, a Negro woman, 23, was brought into the admitting room of Michael Reese Hospital. She had been found by policemen about 15 minutes previously in a nearby alley in a frozen coma. The policemen assumed that she was dead because they were unable to detect any apparent respirations. The admitting intern and the admitting surgical resident observed a respiratory rate of 3 to 5 per minute. The apical pulse rate ranged from 12 to 20 per minute. The pulse was highly irregular, with periods of asystole up to 8 seconds. A vein was located in the antecubital area of the left arm and an ampul of caffeine and nikethamide (coramine®) was injected intravenously. The administration of human plasma was begun through this venipuncture. Oxygen was given by mask.

Physical Examination.—I saw the patient for the first time at 9:15 a. m., 75 minutes after admission. She was a moderately obese young Negro woman whose weight was judged to be 150 lb. (68 kg.) and height 5 ft. 4 in. (163 cm.). The patient was in deep coma. Respirations were 16 per minute. The apical pulse was highly irregular but strong, averaging 20 beats per minute with periods of asystole up to 6 seconds. Blood pressure by sphygmomanometer in each arm was zero.

Head: The head could not be moved from side to side except by exertion of considerable force. Furthermore, it was impossible to flex or extend the head. This was due to an extreme ridigity of the neck muscles.

Eyes: The lids were partially open, allowing a palpebral fissure of roughly ¼ in. (0.65 cm). Manual pressure on the eyeballs over the lids revealed an extreme degree of hardness, giving one the impression of pressing on glass. An area of opacity corresponding to the exposed bulbar conjunctiva covered most of the cornea, but the color of the iris could be seen. No blinking lid reflex was present. The pupils were fixed at a diameter of 3.5 mm. and did not react to strong light thrown suddenly into the eyes. A finger tip was placed directly on the cornea to test the corneal reflex. It was found to be absent.

Nose and Ears: The nose and ears were cool, but there was no evidence of frostbite. No abnormalities were present.

Mouth: It was impossible to open the jaws either manually or by attempting to insert bits of various kinds between the teeth.

Neck: The neck was very stiff, and the skin felt cool and could not be dented appreciably by the finger tip. There were no abnormal masses palpated.

Chest: The breasts were rubbery in consistency and no abnormal masses were palpable. Percussion of the heart borders revealed no abnormalities in shape or size. The apical beat was strong and highly irregular with pronounced bradycardia. The periods of asystole came at irregular intervals and varied in length from 2 to 6 seconds at this time. Auscultation revealed no discernible murmurs. The beats were loudest at the apex. Auscultation of the lungs revealed no rubs or rales.

Abdomen: The entire abdomen was firm and rubbery to palpation. Neither the liver nor the spleen could be palpated, because of the difficulty in denting the abdominal wall. Auscultation revealed a complete absence of peristaltic sounds.

Upper Extremities: No pulse could be palpated in the radial, brachial, or axillary arteries on either side. The skin temperature by palpation was progressively lower as one palpated from the shoulders to the hands. Touching the fingers or hands gave one the impression of touching ice. The elbows could be flexed only with great force. The hands and fingers were hard and could

From the Department of Surgery, Michael Reese Hospital.

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not be dented. No attempts were made to manipulate the joints of the hands or fingers. Despite the patient's naturally dark skin color, there appeared patchy areas of dark violaceous lividity of most of the fingers and both hands to just above the wrists.

Lower Extremities: No pulse could be palpated in the femoral, popliteal, or dorsalis pedis arteries bilaterally. The garter area above the knees was still slightly indented from circular elastic garters, which had been removed. The skin of the thighs was rubbery and cool and could be dented on palpation. However, the skin of the area below the garter indentation was woody and could not be dented by the palpating finger. Touching these parts gave the impression of touching ice, or perhaps very cold metal. The skin from the knees to the tips of the toes was violaceous. The surface of this area appeared granular, the granularity being composed of what appeared to be desquamated epithelial cells. These areas were patchy and were more pronounced on the right side of each leg, that is, the lateral aspect of the right leg and the medial aspect of the left leg. Similar patchy areas of discoloration were found on the outer aspect of the right thigh and right buttock. The toes like the fingers were very hard and were not manipulated.

Back: Both buttocks exhibited areas of frostbite as described above; these areas were particularly pronounced on the right side.

TABLE 1.—*Blood Chemistry*

	Normal	Feb. 8*	Feb. 9†	Feb. 12-15‡	Feb. 28
pH	7.4	7.17	7.35	7.46	7.4
Hematocrit	45	33	39	28	39
CO_2 comb., mM/L.	25-35	17.9	22.5	25.3	24.9
Glucose, mg./100 cc.	70-120	438	121	78	88
Serum urea nitrogen, mg./100 cc.	9-19	10.4	21	65.9	12.9
Serum creat.	1-2	1.65	2.0	5.95	0.9
Serum Na, mEq./L.	135-145	152.5	138.8	131.2	137.5
Serum Cl, mEq./L.	98-106	106	98	94.8	103.2
Serum P, mg./100 cc.	3-4.5	6.6	7.1	7.2	4.8
Serum K, mEq./L.	4-5	4.6	4.75	6.2	4.5
Total protein, gm./100 cc.	6-8	7.8	7.4	6.9	7.1
True albumin, gm./100 cc.	3.2-4.4	4.1	2.7	3.2	2.8
Total globulin, gm./100 cc.	2.6-3.8	3.7	4.7	3.7	4.3
Alpha globulin	0.7-1.5	1.1	...	1.2	1.1
Beta globulin	0.7-1.3	1.15	...	1.45	1.35
Gamma globulin	0.7-1.3	1.45	...	1.05	1.85
Serum bilirubin, mg./100 cc.	0.1-1.0	...	0.6	0.4	0.4
Total serum cholesterol, mg./100 cc.	120-300	...	129	177	...
Esterified cholesterol, %	68-74	...	62	63.5	...
Thymol turbidity, units	0-3	...	1.4	0.9	1.8
Thymol flocculation	0 to 1+	...	0	0	0
Cephalin-cholesterol flocculation	0 to 1+	++	++	+++	0

* Rectal temperature 64.4 F.
† Rectal temperature 99-100.6 F.
‡ Rectal temperature 100-102 F. (extreme values).

Further Observations and Treatment.—At 9:30 a. m., 90 minutes after the patient's admission, a chemical thermometer calibrated according to centigrade scale was inserted into the patient's rectum for a distance of 5 in. (13 cm.). It was removed after three minutes and registered 18 C (64.4 F). The thermometer was reinserted so that readings could be taken at regular intervals (Fig. 1).

At this time 200 mg. of cortisone was injected intramuscularly into what appeared to be the warmest portion of the patient's body, the rectus abdominis muscle, just below the umbilicus.

A cut-down was made in the right antecubital fossa and the blood could not be drawn into a syringe readily since it was very thick in consistency. Consequently the blood was allowed to flow from the needle into test tubes for blood chemistry determinations. The flow of blood was encouraged by intermittent pressure on the upper arm. Some of the laboratory determinations, as shown in Tables 1 and 2, will be of interest since they were taken when the body temperature was 64.4 F. Of particular interest are the severe acidity of the blood and the extremely high serum glucose.

At 10:15 a. m. 2¼ hours after admission, the rectal temperature was 20 C (68 F). At this time a basal metabolism test was undertaken. The metabolic rate was —7.8%. The oxygen consumption graph shown in Figure 2 was taken an hour before clinical evidence of respiratory embarrassment necessitated an emergency tracheotomy. An electrocardiogram was taken at this time, when the rectal temperature was 20 C (68 F), and is shown in Figure 3.

The patient was catheterized at 10:20 a. m.; 675 cc. of almost colorless urine was obtained from the bladder. The temperature of the catheterized urine was 21.5 C (70 F). Results of urinalysis were as follows: pH 5; specific gravity 1.011; albumin 4+; sugar 2+; and no acetone. Microscopic examination of the centrifuged specimen showed 2 to 6 coarsely granular casts per high power field, 2 to 4 finely granular casts, occasional red blood cells, 2 to 10 white blood cells, few squamous epithelial cells, occasional degenerated renal cells, and occasional bacteria (Table 3).

By 11:30 a. m. the patient appeared to have difficulty in breathing despite the oxygen mask. Further unsuccessful attempts were made to open the patient's jaws. A lubricated catheter inserted into the nose could not be passed as far as the nasopharynx on either side. Attempts to pass this tube caused slight bleeding from the nose, probably due to erosion of nasal mucosa. The patient appeared to have obvious oxygen hunger, as evidenced now by the gurgling sounds in the throat and the choking sounds that came with labored breathing. Consequently it was decided that an emergency tracheotomy should be done. The tracheotomy was performed at 11:45 a. m., 3¾ hours after admission. Oxygen was administered through the tracheotomy tube, and the patient appeared to breathe much more easily.

At this time it appeared that the patient might recover. Therefore, it was decided that the upper and lower extremities should be dressed in pressure bandages, because of the possibility that massive edema might result later. At 12 noon, four hours after admission, the legs and hands were gently washed with cotton pellets and dilute soft soap liniment, since they were covered with gross dirt. Petrolatum gauze was applied, fluff gauze dressings were placed over this layer, and elastic bandages completed the pressure dressings. The temperature of the room was set empirically at 68 F, which was roughly equivalent to the patient's internal temperature at this time. Except for the arms and legs, which were bandaged, the body was exposed to the open air.

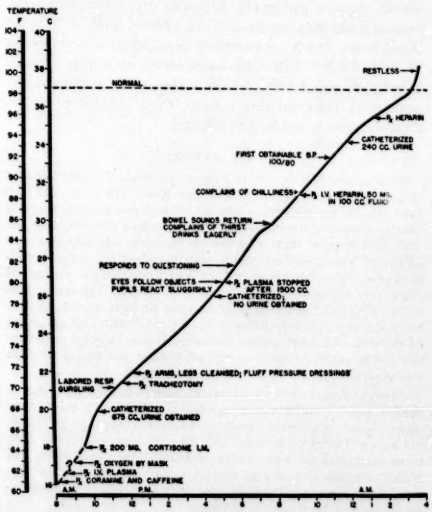

Fig. 1.—Temperature recovery curve from hypothermic levels.

The eyes were examined at 12 noon.[4] They were fixed in the primary position of gaze. The lids were essentially normal and the conjunctivas very pale, owing to constriction of blood-vessels. Tactile tension was normal. The corneas were clear. The anterior chamber had normal depth. The pupils measured 2 by 2 mm., were vertically oval and did not react to light. The irises were brown, with no nodes or tumors. The lenses were clear. The vitreous was clear. The optic nerve heads were very pale and

By 3:30 p. m. the rectal temperature had risen to 25 C (77 F). The pulse rate was 72, with frequent dropped beats; respirations were 16 per minute. The administration of plasma was discontinued, 1,500 cc. having been given. The heart tones were of good quality, but the blood pressure was still unobtainable in the arms.

At 5:15 p. m. the rectal temperature had reached 27 C (80.6 F). The patient, although unable to speak, opened her eyes and

TABLE 2.—*Hematologic Findings*

	Feb. 8 *	Feb. 9	Feb. 16	Feb. 23	Mar. 12	Mar. 22	June 6
Hb, gm. (%)	10.9 (64)	10.8 (69)	7.0 (45)	12.0 (77)	8.9 (57)	9.7 (62)	12.0 (77)
Red blood cells	3.5	3.65	2.66	4.1	3.00	3.31	4.01
White blood cells	16,000	11,800	....	17,400	13,500	10,300	7,600
Hematocrit	33	39	23	36	28	32	38
Color index	0.90	0.96	0.86	0.93	0.95	0.94	0.96
Mean cell volume	99	....	85	90	93	98	96
Sedimentation rate	55	10	69	55	66	58	35
Corrected sedimentation rate	34	....	30	41	38	37	....
Polymorphonuclear segment cells	62	72	52	66	60	62	62
Polymorphonuclear nonsegment cells	18	8	19	14	8	2	....
Eosinophils	0	2	2	0	4	4	2
Lymphocytes	16	9	14	14	28	24	30
Monocytes	3	9	12	7	....	8	6
Metamyelocytes	1	....	....	...	....	....	....
Basophils	....	....	1	...	....	....	....
Macrocytes	+2	+1	+1	+1	+1	+1	+1
Microcytes	+1	+1	+1	+1	+1	+1	....
Polychromatophilia	+1	....	....	+1	....	+1	....
Anisocytosis	+2	+1	+1	+1	+1	+1	+1
Poikilocytosis	+1	+1	+1	...	+1	....	....
Sickling	Negative	Negative	....	...	....	....	....
Target cells	....	....	+1	...	....	....	....
Plasma color	....	Normal	Normal	Normal	Normal	Normal	Normal
Prothrombin time (Quick) (min.)	14.5	13.8	20.5†	29.2†	....	....	....
Coagulation time (min.)	11.5	29‡	....	...	10	....	....

* Rectal temperature 18 C (64.4 F).
† 2-Phenylindanedione was used as the anticoagulant from February 16 through February 23.
‡ The patient was receiving heparin at the time of this determination.

TABLE 3.—*Results of Urinalysis*

Determinations	Feb. 8 *	Feb. 9 †	Feb. 12-15 ‡	Feb. 28	June 18
Color	Pale, clear	Bronze, cloudy	Pale, cloudy	Straw, cloudy	Straw, clear
pH	5.0	6.0	6.0	5.5	7.5
Specific gravity	1.011	1.010	1.012	1.022	1.024
Albumin	4+	3+	2+	2+	0
Sugar	2+	0	0	0	0
Acetone	0	0	0	0	0
Urobilinogen	0	1+	0	0	0
Occult blood §	4+	0	0	0	0
Microscopic					
Casts	2-6 coarsely granular; 2-4 finely granular	Many coarsely granular	Occasional coarsely granular; occasional finely granular	Occasional coarsely and finely granular	0
WBC	Occasional (2-10)	3-5 per HPF; motile cells	3-5 per HPF; no motility	3-5 per HPF; no motility	1-3 per HPF
RBC	Occasional (0-3)	0	Rare	Rare	Occasional shadow
Epithelium	Modified squamous; occasional degenerated renal cells	Many round and squamous cells	Many cells, some containing fatty droplets	Many cells, some containing fatty droplets	
Crystals	0	0	0	0	Few calcium oxalate
Bacteria	Moderate	Trichomonads	Many; yeast organisms (catheterized)	Rare	Moderate

* Rectal temperature 68 F.
† Rectal temperature 99-100.6 F.
‡ Rectal temperature 100-102 F. (extreme values).
§ Benzidine test.

the capillaries severely constricted. The margin, size, and shape of the nerve heads were normal. The maculas were clear. The veins, which were full, were a deep burgundy. On slight pressure the veins emptied at the disk, but no definite pulsation was evident. The veins again filled at the disk when pressure was released. There was no arterial pulsation evident, and it could not be elicited by pressure; the arterioles were diffusely narrowed. There was a good light reflex; the retinas and choroid were slate gray. There was no evidence of hemorrhage or exudate. It was our impression that ischemia retinae was present.

followed objects and people; she appeared to be able to see. The pupils reacted sluggishly to light. There were no voluntary muscular movements in any part of the body. No peristaltic sounds could be heard on abdominal auscultation. The patient was again catheterized, but no urine was obtained.

At 5:40 p. m. the patient responded to loud questioning by shaking her head affirmatively or negatively. When she was asked about pain she responded in the negative. Muscular move-

4. Examination by Drs. Theodore A. Shapiro and Irving S. Krause.

ments were now possible on a voluntary basis to a limited extent. The patient could bend her elbows but apparently could not move her legs. Another attempt at catheterization failed.

At 6 p. m., 10 hours after admission, the rectal temperature had reached 28.5 C (83 F) and a light blanket was placed over the patient's body. At this time she responded well to all questions. Ausculation of the abdomen revealed a return of peristalsis, although the sounds were somewhat hypoactive. The patient complained of being thirsty and asked for cold drinks. She took water eagerly. Within the next few minutes the patient complained of being cold and had a slight chill, which lasted a few minutes. More blankets were added to the covering. Although blood pressure was still unobtainable on the upper extremities, it was deemed advisable to move the patient from the emergency room to a ward bed. This was done with no apparent ill-effects to the patient.

Fig. 2.—Oxygen consumption curve at a rectal temperature of 20 C (68 F).

At 8 p. m., 12 hours after admission, the patient's rectal temperature had reached 30 C (86 F), the apical pulse rate 120, and the respirations 16 to 18 per minute. Despite the tracheotomy tube, the patient was able to make sufficient sound to be understood when she spoke. At this time she asked for her father, who was called into the room; the patient immediately recognized him.

At 9 p. m. the rectal temperature was 31 C (87.8 F). The apical pulse rate was 100 and the respiratory rate 16 per minute. Bowel sounds were still hypoactive. Blood pressure was still unobtainable. Heparin administration by intravenous drip, 50 mg. every four hours in 100 cc. of 5% glucose and water, was begun. The patient requested and received sips of cold liquids. At 11:20 p. m., 15 hours and 20 minutes after admission, the first blood pressure was obtained; it was 100/80 on the left arm. Rectal temperature was 32 C (89.6 F). The patient asked to be moved to a more comfortable position, since apparently she could not yet control her muscular movements very well. At 11:40 p. m. the rectal temperature was 93.2 F; an ordinary rectal thermometer was used from this point on. Respirations were 22 per minute; the pulse rate was 100. The patient was catheterized, and 240 cc. of concentrated bronze-colored urine was obtained. Results of analysis of this specimen were as follows: pH 5, albumen 3+, sugar 1+; centrifuged sediment showed 10 to 15 casts per high power field, including mainly granular and occasionally red cell casts; tubular epithelium; occasional red blood cells and white blood cells; and no bacteria. The patient complained of a cold sensation in the hands and legs and shivered slightly.

At midnight the rectal temperature had risen to 95 F.

At 1 a. m., 17 hours after admission, the rectal temperature was 98 F, pulse rate 120, respirations 18, and blood pressure 118/80.

At 3 a. m., 19 hours after admission, the rectal temperature reached 101 F, pulse rate 120, respirations 18, and blood pressure 118/80. The patient complained of a fleeting chest pain, which disappeared spontaneously.

The rectal temperature remained at about 100 F for the next six hours. The patient began to get restless. At about 5 a. m. she complained of an uncomfortable feeling of warmth. The blankets were removed, and only a sheet remained to cover the patient.

A history obtained from the patient's father and husband indicated that she had been drinking more or less steadily for some nine hours prior to the time she lost consciousness. Apparently she had slipped on the ice at about 9 p. m. and, because of her inebriated condition, had had great difficulty in arising and lost consciousness. Therefore, it appears that her exposure had lasted 11 hours, from about 9 p. m. on February 8 to 8 a. m. on February 9. The patient had been dressed lightly; she wore a three-quarter length coat, sheer stockings, and light shoes; she had not worn gloves.

Conversations with the patient brought to our attention the fact that for the first 36 hours following return to normal temperature she had had amnesia for all events in the 12 hours immediately prior to her exposure until the time she regained consciousness. However, her memory for previous events was lucid and detailed. Thirty-six hours after the patient's temperature reached normal ranges she was able to recall the events that occurred within the 12-hour period prior to exposure. The amnesia for recent events following recovery from hypothermia has been observed previously.[5]

COMMENT ON HYPOTHERMIC PERIOD

Many questions arise concerning the reasons for this patient's recovery. There are many unanswered questions of physiologic significance. The accumulated data cannot answer all these questions, but it is hoped that these data will stimulate further experimental studies.

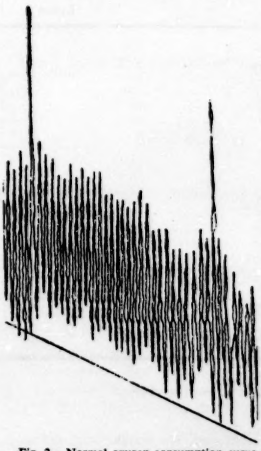

Fig. 3.—Normal oxygen consumption curve for this patient.

The recovery curve (Figure 1) followed a remarkably straight line in a room temperature of 68 F. The rise in deep rectal temperature during the recovery period averaged one degree per hour. No attempts were made to warm the patient. We had the choice of either the rapid [6] or slow [7] warming methods, each of which has its adherents. We chose to warm the patient slowly because of the extreme degree of hypothermia and the length of exposure. Under these circumstances we felt that rapid warming might cause a shift of body fluids from the intravascular to the extravascular space and possibly result in secondary shock. The only pronounced devi-

5. Talbott, J. H.: Cold Exposure: Pathologic Effects, in Medical Physics, edited by Otto Glasser, Chicago, The Year Book Publishers, Inc., 1944, p. 244.

6. (*a*) Alexander.[2a] (*b*) Symposium on Frostbite by Russian Investigators, published by Defense Research Board of the Canadian Defense Department, cited in U. S. Nav. M. News Letter, **16**: 8, 1951. (*c*) Lempke, R. E., and Shumacker, H. B., Jr.: Studies in Experimental Frostbite: III. An Evaluation of Several Methods for Early Treatment, Yale J. Biol. & Med. **21**: 321, 1949. (*d*) Ariev, T. Y.: Slow Vs. Rapid Warming of Frozen Extremities, Vestnik. Khuin. **47**: 527, 1939. Cited by Arena, Gerbasi and Blain.[7]

7. Talbott.[5] Talbott, J. H.; Consolazio, W. V., and Pecora, L. J.: Hypothermia: Report of a Case in Which the Patient Died During Therapeutic Reduction of Body Temperature, with Metabolic and Pathologic Studies, Arch. Int. Med. **68**: 1120 (Dec.) 1941. Safford, F. K., Jr., and Nathanson, M. B.: Clinical Observations on Tissue Temperatures: Pathologic and Therapeutic Effects, Arch. Surg. **49**: 12 (July) 1944. Rosenfeld, L.; Langohr, J. L.; Owen, C. R., and Cope, O.: Circulation of the Blood and Lymph in Frostbite and Influence of Therapeutic Cold and Warmth, Arch. Surg. **59**: 1045 (Nov.) 1949. Greene, R.: Immediate Vascular Changes in True Frostbite, J. Path. & Bact. **55**: 259, 1943.

ation in the recovery curve from a relatively straight line is the sharp rise immediately following the intramuscular injection of 200 mg. of cortisone. The significance of this deviation cannot be ascertained at this time, since the question arises as to the degree of absorption that would occur under such circumstances.

A projection of the straight line temperature curve to the time of admission would bring the rectal temperature on admission to about 16 C (60.8 F). To our knowledge recovery from such low temperatures has not been recorded in man.

The patient apparently had lain on her right side throughout the period of unconsciousness, since this was the side having the most marked areas of frostbite. The circular garter marks above the knee might have been a contributing factor to the extreme degree of frostbite below this area. It is well known that pressure is a contributory part of tissue destruction in frostbite.

Initial treatment of frostbitten extremities by the application of petrolatum gauze and fluff dressings with mild external elastic pressure is controversial. This type of treatment was used here since it is the therapy usually employed in burns at this hospital. Its rationale can be defended on the basis that the dressings protected the extremities against further trauma and against a secondary state of shock which might have followed extravasation of fluids into the tissues on warming. However, in the light of developments in the post-hypothermic period, the question might well be raised as to whether the saprophytic invasion of the tissues in the extremities, particularly by anaerobes, might not have been encouraged by occlusive dressings.

The question of vasodilating measures was considered from the beginning. The most definitive work on this subject in instances of severe frostbite indicates that vasodilating measures are probably contraindicated, since they enhance local edema and might precipitate gangrene.[8] Other work has shown that this may not be true in milder cases.[9] In the light of this information, we used no local vasodilating measures in this case.

Anticoagulant therapy was begun as soon as peripheral blood pressure was perceptible, about 12 hours after admission. Experimental evidence indicates that anticoagulant therapy may prevent gangrene when the latter is due to thrombosis following frostbite, particularly when used very early.[10] There is also some circumstantial evidence that this may hold true in human cases.[11]

The rapid lowering of this patient's temperature in relatively dry cold surroundings might have contributed to her survival. The relative humidity according to the United States Weather Bureau ranged from 58% to 70% during the period of the patient's exposure, and the official temperatures for this period ranged from –1 F to –7 F. Unofficial temperatures in the neighborhood varied from –11 F to –15 F.

Regarding the effect of alcohol ingestion, we believe the alcohol could have served as an initial soporific comparable to the administration of barbiturates or light anesthesia to experimental animals to offset the intense psychomotor disturbances and panic of the first stages of abrupt chilling.[12a] Furthermore, alcohol is known to produce peripheral vascular dilatation at the expense of deep body temperature. Under such conditions a greater volume of blood would be exposed to the cooling effect of the surroundings and hasten a drop in body temperature. It is unlikely that ingested alcohol could work in any other manner. In Rascher's Nazi experiments,[2a] the ingestion of alcohol could not be evaluated since the amount given was very small and post-hypothermic observations were inadequate. It remains for controlled animal experimentation to clarify the effect of alcohol in this condition.

Metabolism.[12]—The metabolic rate of —7.8% which was obtained at a rectal temperature of 20 C (68 F) is not actually a basal reading, nor is it altogether accurate. This figure was calculated from the DuBois tables, as modified by Boothby and Sandiford, for normal body temperatures. Yet the actual metabolic rate extrapolated to the temperature of the patient would modify this figure only slightly. There are, however, several reasons why one would not expect a remarkably low metabolic rate in this patient: 1. The patient had ingested large amounts of alcohol prior to her exposure. Therefore, although all metabolic processes were diminished during the period of unconsciousness, there was nonetheless some absorption and metabolism of alcohol, albeit more slowly than under normal conditions. 2. Clinically imperceptible muscle fasciculation and fibrillation during hypothermia are known to prevent pronounced drops in metabolic rate.

The oxygen consumption curve taken at a rectal temperature of 20 C was compared with a later curve taken after recovery. Respirations at the time of the first test were about 12 per minute. The slow irregular rate and the irregularity in depth of respirations may be noted (Fig. 2), as contrasted with the normal pattern for this patient (Fig. 3).

Cortisone was given on the basis that this patient had undergone a severe degree of stress, with possible adrenal exhaustion. Proof of the value of either cortisone or corticotropin (ACTH) in hypothermia would depend on the results of controlled animal experiments. Evidence that there was a pronounced degree of adrenal stimulation induced by the stress condition of hypothermia is probably reflected in this patient's remarkable hyperglycemia (serum glucose 483 mg. per 100 cc.) in the frozen state. This situation is perhaps the result of both adrenal medullary and cortical stimulation. Glycogen-

8. Arena, J. A., Jr.; Gerbasi, F. S., and Blain, A., III: Experimental Frostbite: An Inquiry into the Effect of Sympathetic Block Using Tetra-Ethyl Ammonium Chloride in the Acute Stage, Angiology **1**: 492, 1950.

9. (*a*) Lempke and Shumacker.[4c] (*b*) Southworth, J. L.: The Role of Sympathectomy in Treatment of Immersion Foot and Frostbite, New England J. Med. **233**: 673, 1945. (*c*) Holmes, T. W., Jr.: Modern Concepts in the Treatment of Frostbite: Presentation of a Case Successfully Treated with TEAC, Alexander Blain Hosp. Bull. **7**: 12, 1948. (*d*) Shumacker, H. B., Jr.: Peripheral Vascular Disease, Surgery **13**: 1, 1943. (*e*) Shumacker, H. B., Jr., and Abramson, D.: Sympathectomy in Trench Foot, Ann. Surg. **125**: 203, 1947. (*f*) Crismon, J., and Fuhrman, F.: Studies on Gangrene Following Cold Injury, J. Clin. Invest. **26**: 468, 1947.

10. (*a*) Lempke and Shumacker.[4c] (*b*) Lange, K., and Boyd, L.: Functional Pathology of Experimental Frostbite, Surg., Gynec. & Obst. 346, 1946. (*c*) Lange, K.; Kiener, D., and Boyd, L. J.: Frostbite: Physiology, Pathology and Therapy, New England J. Med. **237**: 383, 1947. (*d*) Friedman, N. B.; Lange, K., and Weiner, D.: The Pathology of Experimental Frostbite, Am. J. M. Sc. **212**: 61, 1947. (*e*) Shumacker, H. B., Jr.; White, B. H.; Cardell, A. R.; Wrenn, E. L., and Sanford, T. F.: Studies in Experimental Frostbite: The Effect of Heparin in Preventing Gangrene, Surgery **22**: 900, 1947.

11. Theis, F. V.; O'Connor, W. R., and Wahl, F. J.: Anticoagulants in Acute Frostbite, J. A. M. A. **146**: 992 (July 14) 1951.

12. Metabolic observations were made in collaboration with Dr. Rachmiel Levine.

olysis due to epinephrine may have been the initial cause of the hyperglycemia. Selye [13] has shown that exposure to cold superimposed on a period of fasting intensifies and accelerates the appearance of a secondary hyperglycemic peak after "fasting hyperglycemia." According to Selye, this rise in blood sugar appears to depend on the secretion of adrenocorticoids. As can be seen in Table 1, the serum glucose level fell to 121 mg. per 100 cc. within 24 hours after admission and to within the normal range by the following day, where it remained for the duration of the patient's hospital stay. Urinalysis showed no evidence of ketonuria either during the frozen state or thereafter. The severe acidosis during hypothermia (blood pH 7.17; carbon dioxide combining power 17.9 mM/L) is probably an expression of the reduced blood flow to the muscles with consequent accumulation of lactic acid.

THE IMMEDIATE POST-HYPOTHERMIC PERIOD

The day following admission the patient was feeling rather comfortable, with no specific complaints. A complete inventory of the chemistry of the blood and urine was obtained (Tables 1 and 3). The only indication that difficult days lay ahead might have been seen from the urinary findings of albuminuria and the presence of coarsely granular casts. The pH of the blood during hypothermia had now approached normalcy and the hyperglycemia was definitely diminished, but there was present a 2+ cephalin-cholesterol flocculation with a slight derangement of the albumin-globulin ratio.

The therapeutic plan at this time involved three major objectives: (1) preservation, as far as possible, of frostbitten tissue; (2) prevention of infection; and (3) general care to reestablish a state of normalcy in body functions.

Frostbite Care.—The four-hour doses of 50 mg. of heparin were supplemented by an initial dose of 300 mg. of bishydroxycoumarin (dicumarol®) the day after admission. Heparin was discontinued within two days when therapeutic levels of prothrombin time were reached. After two days of bishydroxycoumarin we were able to obtain a supply of 2-phenylindanedione; anticoagulant therapy was maintained at therapeutic levels with this drug for 22 days. This drug was chosen because our experience with it in the laboratory [14] indicated that more even prothrombin levels can be maintained with it than with bishydroxycoumarin and that its effect disappears more rapidly after discontinuance.

The day following admission the patient complained, for the first and only time, of pain in the legs. We were unwilling to use opiates of any kind and decided to give the patient 500 cc. of a 0.2% procaine hydrochloride solution by slow intravenous infusion. Within five minutes after the start of the infusion the patient no longer complained of pain.

The morning following admission it was decided that the extremities should be rewrapped, since the dressings had been hurriedly applied in the emergency room the day before, when it was not known whether the patient would survive. The dressings were removed under sterile conditions in the presence of several surgeons. Inasmuch as the digits of both upper and lower extremities were frozen hard on admission, we took advantage of this opportunity to examine the functional state of these parts. We found that the patient was able to move the digits of all four extremities individually and collectively through a normal range of motion. Furthermore, some proprioceptive sense seemed to be present in each digit. Large blisters now covered the palms and dorsal surfaces of both hands, including the fingers, and were also present in a patchy pattern on both legs, the outer aspect of the right thigh, and the buttocks. The ankles and feet, though not actually blistered, appeared puffy and felt very cold to the touch. No pulsations could be felt in either dorsalis pedis artery, although they could be felt in the popliteal space bilaterally. Each extremity was carefully rewrapped, with petrolatum gauze, fluff dressings, and elastic bandage, in the position of function.

Measures to Prevent Infection.—On the day of admission penicillin therapy was instituted; the patient received 600,000 units daily thereafter for a period of three weeks. Subsequent antibiotic therapy is mentioned below. The day following admission prophylactic injections of 5,000 units of tetanus antitoxin as well as an ampul of polyvalent gas gangrene antitoxin (2,000 units of Clostridium welchii antitoxin and 2,000 units of Clostridium septicum antitoxin). Aseptic precautions were strictly observed in all dressings.

General Care.—We decided not to limit the patient's intake of food or fluid, since she appeared to enjoy and perhaps even need whatever she ingested. This plan may have played a role in later problems in fluid and electrolyte balance. The tracheotomy tube was removed 48 hours after admission, and the wound was closed with a Michel clip.

POST-HYPOTHERMIC SEQUELAE

Since the detailed account of the day-to-day course in the weeks following admission would be too lengthy for this report, the post-hypothermic sequelae will be summarized catagorically below. In some categories, progress to healing occurred in the absence of complications. In other instances the complications were so severe as to endanger the patient's life. These studies represent the cooperative efforts of a large number of hospital staff members, only a few of whom are mentioned below.

Ocular Findings.[15]—Eye examination the day after admission revealed that the pupils dilated well with eucatropine (euphthalmine®) hydrochloride 2% and hydroxyamphetamine (paredrine®) hydrobromide 1%. Vision was 12/20 on the right and 12/18 on the left. The patient could accommodate with either eye to 12 type at 14 in. The lids were normal and of good color, with no evidence of injury or infection. The conjunctivas were of good color, with no evidence of pathology. The preauricular nodes were not palpable. Tactile tension was normal. No pus or mucus could be expressed from the lacrimal sacs. The corneas were clear. There was no evidence of damage to the epithelium or endothelium. The anterior chambers were clear (no cells or transudation), with normal depth. The pupils were round and equal (2 by 2 mm.) and reacted

13. Selye, H.: Fasting Hyperglycemia, Bull. Biol. et. méd. Expér. URSS, 8:339, 1939; The Physiology and Pathology of Exposure to Stress: A Treatise Based on the Concepts of the General-Adaptation-Syndrome and the Diseases of Adaptation, Montreal, Acta, Inc., 1950.
14. Preston, F. W.; Ross, A., and Laufman, H.: Unpublished data.
15. Drs. Theodore A. Shapira and Irving S. Krause.

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to light, direct and consensual. The irises were deep brown, with no tumors or masses; vascular markings were clear, with good pigment ruff at the papillary border and no evidence of hippus. The lenses and vitreous were clear. External ocular muscle action was good; the levator palpebrae superioris was especially strong. There

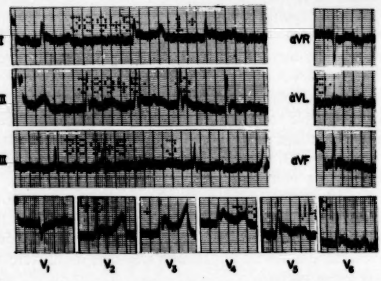

Fig. 4.—Electrocardiographic tracing taken at rectal temperature of 20 C (68 F). The tracing is distorted by extracardiac artifacts due to muscle tremor. No P waves can be distinguished. The ventricular action is irregular at an average rate of 42 per minute. The longest R-R intervals are equal, corresponding to a rate of 30, and intervals of less duration, separating the longest intervals, show progressive shortening. Auricular fibrillation cannot be excluded. However, the spacing of the ventricular complexes suggests the presence of nodal rhythm with second degree auriculoventricular block and Wenckebach periods below its point of origin. Under this assumption depression of the primary pacemaker (complete sinus standstill) or complete sinoauricular block could be the primary disturbance of rhythm. The S-T-T complexes show marked prolongation and bizarre configuration. The Q-T interval of the longer cycles measures 0.78 sec. instead of the expected 0.48 ± 0.04 sec. S-T is elevated in most of the leads and forms a broad concavity between two peaks, thus giving the impression of a double T wave. (Interpretation by Drs. A. Pick and L. N. Katz.)

was good convergence power, within 125 mm. PcB. Duction and version movements were normal in the cardinal positions of gaze. There was no evidence of tropia. There was mild exophoria, of about 12 prism diopters. The right and left fundi were essentially the same. The disks were round and normal in size but showed mild temporal pallor; the nasal vein was pink, with sharp borders and normal excavation; there was no evidence of edema. The maculas were clear, with good foveal reflex and no disturbance of pigmentary epithelium. The arteriovenous ratio of the retinal vessels was 1:1.5; there was a good arteriolar reflex, with no evidence of sheathing or arteriovenous compression, undue tortuosity, or exudates or hemorrhages. A spontaneous venous pulsation was noted at the disk. There appeared to be little evidence of ocular pathology. The ischemia retinae noted the previous day had completely cleared. The retina and optic nerve revealed no permanent damage at this time. The vision was excellent. Subsequent eye examinations revealed no residual pathology.

Electrocardiographic Data.[16]—With the return to normal ranges of temperature there appeared a sinus tachycardia, which persisted until 12 days after admission. Electrocardiograms were taken daily from the time of entry. A detailed study of these is being reported separately. An electrocardiogram taken six days after admission (Fig. 5*A*) showed a configuration commensurate with a pattern seen in acute diffuse pericarditis. By February 21, thirteen days after admission, the pulse rate returned to within normal limits and the electrocardiogram showed evidence of restitution (Fig. 5*B*).

A summary of the essential electrocardiographic changes in this case can be divided into three stages: 1. The earliest period extended over three days, with maximal changes on the first day of observation. This period was characterized by (*a*) disturbances of cardiac rhythm due to depression of activity of cardiac pacemakers and probably partial depression of sinoauricular and atrioventricular conduction. These changes showed more rapid regression (within one day) than (*b*) the severely over-all alteration of the repolarization process of the ventricular myocardium, extending over three days and producing unusual changes of duration and contour of S-T-T. 2. A period of progressive T wave changes, imitating in type and duration (about two weeks) the electrocardiographic course of acute diffuse pericarditis. This would suggest that during this period organic and/or functional alterations present in the myocardium were restricted mainly to its outer, subepicardial layer. 3. A stage of restitution, which in the course of further observation showed decided lability as evidenced by episodes of partial relapse to previous electrocardiographic abnormalities with rapid restitution.

Respiratory Tract.—At no time throughout the entire period of hospitalization was there any evidence of lung pathology.

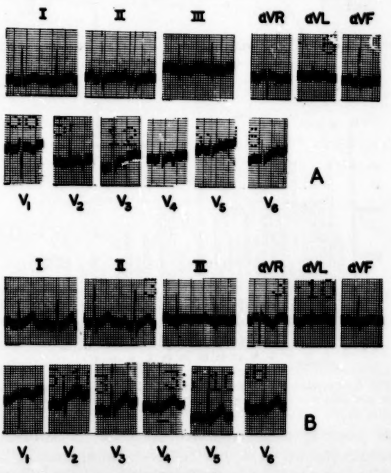

Fig. 5.—*A*, electrocardiographic tracing taken Feb. 14, 1951, six days after admission. Rate 115; P-R interval 0.18 sec.; sinus tachycardia. S-T is no longer deviated, and Q-T is of normal duration. The configuration of the T waves is similar to a pattern seen in the course of acute diffuse pericarditis. *B*, electrocardiographic tracing taken Feb. 21, 1951, 13 days after admission. Rate 88; P-R interval 0.18 sec.; restitution to normal.

Hematologic Findings.[17]—Figure 6 and Table 2 show the parallel course followed in the post-hypothermic period by the hematocrit, the hemoglobin, and the red blood cell levels. This could have been due to a post-

16. Drs. Alfred Pick and Louis N. Katz.
17. Work done in collaboration with Dr. Karl Singer.

hypothermic anemia or to hemodilution. A transfusion of 500 cc. of blood was given on February 20 (12 days after admission) without full knowledge of what the drop in the red blood cell count actually signified. The transfusion had no observable effect on the downward course of the red blood cell count. Unfortunately blood volume studies were not made at this time. However, evidence that the drop in hematocrit, hemoglobin, and red blood cell levels was probably not the result of anemia was obtained from blood marrow studies on February 17 (nine days after admission). The marrow examination showed no evidence of increased erythrocytogenesis. The complete marrow report was as follows:

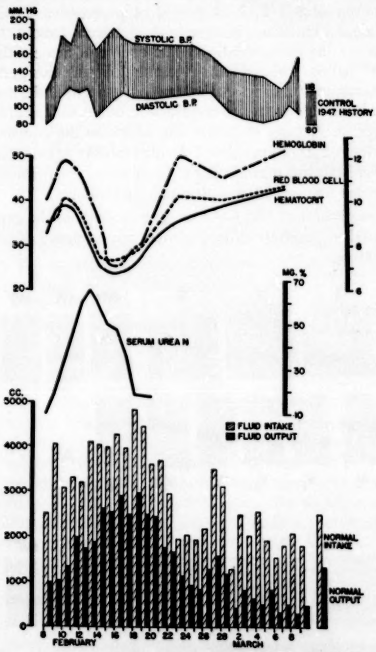

Fig. 6.—Correlation of blood pressure, blood picture, serum urea nitrogen, and fluid intake and output in the post-hypothermic period.

full marrow; megakaryocytes adequate; erythroblast-granulocyte ratio 1:4; red cell series normoblastic; no foreign cells or parasites. The marrow was considered essentially normal.

No eosinophils were found in the blood smears on the day of admission. The significance of the lack of eosinophils in the hypothermic period can probably be ascribed to adrenal stress.[18] The next day two eosinophils per 100 leukocytes were found. This count persisted until March 5, when again no eosinophils could be found. On this date the patient exhibited a skin rash. The rash disappeared when all antibiotics were stopped. After March 12 four eosinophils per 100 white cells appeared; this count persisted fairly consistently throughout the entire hospital stay.

The cold agglutinin titer on February 19 was 1:1, not a significant titer. Results of a saline erythrocyte fragility test, on February 20, when the anemia was severe, were within normal range.

Electroencephalographic Data.[19]—Unfortunately it was impossible to get an electroencephalographic tracing while the patient was in coma. The first tracing was made on February 13, five days after admission. The base line showed low voltage waves of 4.5 cps throughout. A moderately well-sustained 10 to 11 cps rhythm was found occipitally and to a lesser degree centrally when the slower rhythms were in abeyance. Except for slow waves, the diagnostic impression was that there were no gross abnormalities.

The test was repeated on June 21, some 18 weeks after admission, at which time the record was not notably different from that of February 13, and was classified as within normal limits. It can be surmised that the hypothermic period resulted in no permanent change in the electroencephalographic record.

Changes in Blood Pressure, Water Balance, Electrolyte Balance, and Renal Function.[20]—The blood pressure became perceptible 14 hours after admission, when the rectal temperature was 33 C (91.4 F). The blood pressure then was 100/86. Blood pressures in the range of the patient's norm of 118/80 (available from a previous record) persisted for only 36 hours, when hypertension gradually became evident. As can be seen from Figure 5, the blood pressure reached definite hypertensive levels two days after admission and remained high for a period of 18 days. During this period blood pressure ranged from 170/100 to 200/120 with few exceptions. A detailed description of the data accompanying this hypertension forms the basis for a separate report, but a summary of the available data will be made here.

The fluid intake of this patient was governed largely by her desires, since we were unaware of any possible ill-effects that this might entail. We were concerned mainly with the question of urinary excretion. Beginning the fourth day the patient began to excrete abnormally large amounts of urine. In Figure 6 it can be seen that the excessive fluid output from the third to the 13th day, paralleled the excessive daily fluid intake for this period. Yet the urinary specific gravity at no time within the first seven days fell below 1.009 or went above 1.012. Following this period (after the 13th day) the daily urinary output was relatively low and the intake varied from low to moderately excessive. The specific gravity rose to 1.022 by February 28, at a time when the urinary output was markedly diminished.

The only intravenous supplementation of intake throughout the charted period consisted of 1,500 cc. of plasma and 1,000 cc. of 5% glucose in saline intravenously on the day of admission, 500 cc. of saline containing 0.2% procaine hydrochloride the next day, 500

18. Dalton, A. J.; Masson, G., and Selye, H.: Coagulation et éléments figurés du sang pendant le syndrome général d'adaptation chez des animaux normaux et chez des animaux adrénalectomisés, Bull. et mém. Soc. roumaine endocrinol. 5: 176, 1939.

19. Drs. Herman M. Serota and M. Torman.

20. Work done in collaboration with Drs. William I. Freud, Richard Sternheimer, and I. I. Ritter.

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cc. of blood on February 20, 12 days after admission, and 1,000 cc. of 5% glucose in saline on February 21, 13 days after admission.

Figure 6 demonstrates the correlation between excessive fluid intake and hemodilution, as evidenced by the parallel drop in hemotocrit readings, hemoglobin, and erythrocyte counts. The assumption that a hypervolemic state existed was supported by the bone marrow evidence against anemia, although blood volume studies were not performed.

During this same period there was a marked degree of azotemia, with a peak serum urea nitrogen of 66 mg. per 100 cc. on February 13, five days after admission. Serum creatinine levels increased proportionately, reaching a peak of 6 mg. per 100 cc. one day before the maximum elevation of urea nitrogen. Urinary creatinine measured in grams per 24 hours was extremely low during most of the period in which the serum creatinine was elevated, indicating a defect in creatinine clearance. Also, throughout the two-week period following injury albuminuria (2+ to 4+) was present and lipoid casts were found in the centrifuged sediment.

From this data it would appear that, in addition to the apparent hypervolemia associated with hypertension, kidney damage was also present. Lewis and Thompson [21] found "acute nephrosis" in rabbits exposed to local cold injury. The urine of their animals exhibited lipoid casts and degenerated renal cells similar to those found in this patient.

The other chemistry determinations during this period indicated that there was a relatively normal serum sodium, but an extremely low output of sodium in the urine (Fig. 7). The serum chloride levels more or less paralleled those of the sodium except for a short period in which there was mild hypochloremia. Salt intake, although unmeasured, was considered normal. Because of the apparent hemodilution, the normal serum sodium levels could actually represent relative hypernatremia. On the other hand, the extremely low urinary sodium and chloride levels expressed in milliequivalents per 24 hours represented an absolute diminution in excreted sodium and chlorides, again suggesting sodium retention. This picture might be consistent with the disturbance in renal function produced by Selye [22] in animals treated with desoxycorticosterone acetate. The sodium retention in our case might have been due to renal damage. However, it is more probable that it was due to adrenal hyperactivity, especially in view of the fact that potassium excretion was abnormally high for a prolonged period at a time when pronounced nitrogen retention occurred.

During the period under discussion there was moderate hyperphosphatemia and a diminution in urinary phosphates. Both of these deviations were corrected as the blood pressure approached normal limits and the azotemia disappeared. Urinary creatine was significantly elevated from the period three days after admission for eight days.

It is impossible to state whether there was any relationship between the effects of tissue destruction and the persistence of hypertension. However, there seems to be an apparent correlation between the two, inasmuch as the final recession to the patient's norm of 118/80 did not occur until five days after amputation of the legs.

The available data suggests that we were dealing with a combination of events. There seemed little doubt that kidney damage was present, involving both tubular and glomerular elements. The voluntary demand for excess fluids by the patient might have been due to the resulting isosthenuria, leading in turn to hypervolemia.

Frostbite Sequelae.—Despite massive dressings and intensive antibiotic therapy as previously outlined, it became necessary to change the dressings on all four extremities every 48 hours after the fourth day because of permeation of large amounts of malodorous drainage. Débridement of epidermal layers was carried out as indicated on a conservative basis. Large blisters were not

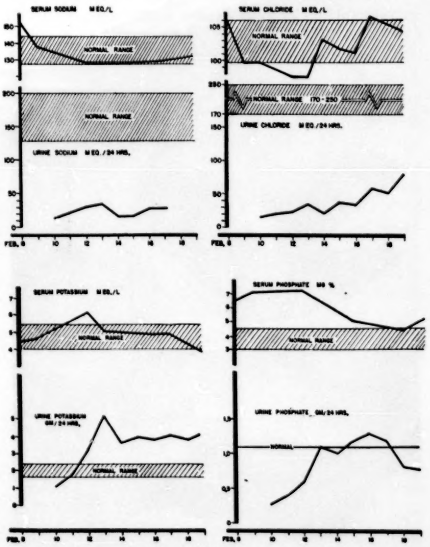

Fig. 7.—Serum and urinary sodium, chloride, potassium, and phosphate levels in the post-hypothermic period.

opened. When such blisters ruptured spontaneously the necrotic overlay was removed.

Although it was evident after five days that there was no sign of viability in the tissues of either foot, the patient was still able to dorsiflex both feet and move the toes, but this latter movement was not through as wide a range of motion as previously. There was no sensation in either foot or leg up to just below the knee level. On the seventh day the hands, as well as the fingers, were covered with huge blisters on both the dorsal and volar surfaces, but the patient had an almost full range of

21. Lewis, R. B., and Thompson, R. M.: Acute Nephrosis Following Experimental Local Cold Injury, United States Air Force School of Aviation Medicine, Progress Report No. 21-23-016, November, 1950.

22. Selye, H.; Hall, O., and Rowley, E. M.: Experimental Nephrosclerosis: Prevention with Ammonium Chloride, Lancet 1: 301, 1945. Selye, F. L.: Biochemical Changes in Hypertension, Canad. M. A. J. 57: 325, 1947.

motion in all joints of all fingers. She was also able to abduct and adduct all fingers and to oppose the thumbs. This indicated viability in the intrinsic muscles of the hands. The larger blebs were aspirated of clear straw-colored fluid, the volume of which was estimated to be 300 cc. from both hands.

On February 16 (eight days after admission) a coat of necrotic epidermis was removed over the palm and the dorsum of both hands and wrists. The underlying tissue proximal to the metacarpophalangeal joints appeared pink and smooth, while distally this layer was dark red and partially demarcated from the pink tissues proximally. At no time was there pain associated with redressing or with active motion of the fingers (Fig. 8).

After two days the blisters on the buttocks were exposed to air under a bed cradle, since it was difficult to

Fig. 8.—Appearance of hands and legs on Feb. 16, 1951, eight days after admission. At this stage there was still motion in fingers and toes.

keep them dressed. They were treated with boric acid dressings periodically throughout each day.

Dressings of the lower extremities on February 21 (13 days after admission) revealed that with the exception of large areas on the right side of each leg, in which the superficial tissue now appeared black and nonpliable, most of the surface of the legs was covered by what appeared to be pink epithelium. The skin of the toes was still adherent. The lesions of the leg appeared delimited from the milder blisters of the thigh by the garter line in the superpatellar region.

There was evidence now of foot drop, and the patient was no longer able to dorsiflex the ankles. Dressings of the hands the same day revealed the beginning formation of a dark brown firm eschar over the fingers.

A dark eschar developed over the legs and feet over the next few days. Aquaphor* (ointment containing hydroxyl animal fats) dressings and saline soaks were used on the hands in an attempt to soften the eschars. This apparently proved to no avail and was discontinued after four days. The eschars on each finger were bivalved on February 25. The right hand was placed in an aluminum cock-up splint between soakings, since a moderate wrist drop appeared to be developing.

Dressings were done daily from this point on, and débridement was carried on in which small amounts of the eschar were taken away from the proximal edges as far as spontaneous separation would allow. We were encouraged by the fact that as the eschar was cut away from both the hands and the legs, pink granulation tissue was invariably found underneath.

On March 4 examination of the legs revealed that, while some areas in the upper third were epithelized, about 60% of the exposed surface of the legs between the eschar and the knees had lost a full thickness of skin. The eschar at this time had been débrided to about the level of the lower third of the tibia. Directly over the lower aspect of the tibialis anterior muscle the granulation tissue did not appear as healthy as did the higher areas. Deeper débridement at this time, through the fascia and into the belly of the tibialis anterior muscle, revealed the muscle to be salmon pink, foul smelling and noncontractile on cutting. Nonetheless, bleeding was brisk from spurting small arteries which were cut across when the muscle was incised. There was no pain at any time during this débridement without anesthesia. The bacon rind eschar from this point distally was not removed but was bivalved to a deeper level. A deliberate incision was made over the dorsum of the left foot, revealing black, foul-smelling necrotic tissue to the bone. It became obvious to us at this time, that, despite all measures to preserve tissue, it was necessary to amputate both lower limbs at least as high as the lower third of the tibia. Surgery was postponed because of a severe generalized skin rash, presumably caused by penicillin. Maximum temperature elevation during this period was in the neighborhood of 100 F. The pulse rate during this period ranged from 120 to 130, and the patient appeared toxic. Terramycin, 2,000 mg. per day, was given in place of penicillin. Within 48 hours the stools became tarry and were strongly positive for blood. Anticoagulant therapy was stopped on March 6, 26 days after admission, as was all medication, including terramycin. Vitamin K was administered.

On March 8, with the use of cyclopropane and ether anesthesia, the amputations were performed. Guillotine amputations were performed at the lowest possible level commensurate with viable tissue. This was approximately 9 in. (23 cm.) below the knee bilaterally. The patient took anesthesia very poorly and had a pulse rate between 120 and 160 throughout surgery. After the first leg was amputated, the patient's blood pressure dropped

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to zero, despite continuous blood transfusion, and amputation of the second leg was delayed for 45 minutes while resuscitative measures were administered. During surgery 1,500 cc. of blood were given. Detailed pathologic and bacteriologic studies on the specimens are to be reported elsewhere.[23]

The pulse rate ranged between 128 and 140 for 10 days after operation. Electrocardiograms during this time revealed only sinus tachycardia. Despite the persistently rapid pulse the patient's general condition appeared much improved within 48 hours after surgery. She appeared less toxic, and her appetite, which had diminished with the occurrence of drug sensitivity and toxicity, was now back to normal.

Fig. 9.—Appearance of hands and legs on March 8, 1951, 28 days after admission, showing mummification of fingers with proximal granulation tissue. Note muscle necrosis in lower extremities.

On March 13 the patient was taken to the operating room for débridement of the hands with the prospect of amputation of portions of the fingers. Débridement revealed red tissue under some areas of the eschar; amputation was therefore delayed. On March 20 the patient was returned to the operating room, at which time it was apparent that amputation of some of the fingers would have to be performed. Guillotine amputation was done through obviously mummified tissue, and the proximal eschars were removed. This procedure was carried out in the hope that spontaneous separation of necrotic from viable tissue would result in greater preservation of the digits.

On April 6 thick split skin grafts from the thighs were applied to portions of both leg stumps. The patient was returned to the operating room on April 12 for skin grafting of the remaining areas of the leg stumps. It was our impression that split thickness grafts did not take as well on frostbite granulation, as had been our previous experience in burn cases. Although the granulation appeared very healthy and compressed, we obtained no better than 60% takes in our grafting.

On May 3 the patient was returned to the operating room, where final débridement of the fingers was done. The only completely normal digit of the hands that remained was the left thumb, which underwent several episodes of peeling as well as loss of the nail. The four fingers of the left hand remained only as stumps of the proximal phalanges. Tissue loss on the right hand consisted of the loss of all digits, including the heads of all metacarpals. The first metacarpal was necrotic in its distal half. All that remained of the right hand was the palm.

Subsequent care consisted of dressings and treatment of a Pseudomonas aeruginosa infection of all wounds with dilute acetic acid at each dressing. Under careful guidance of special nurses the patient learned to hold a fork and spoon in her left hand by means of opposing the thumb to the stump of the forefinger. She soon learned to hold a pencil and crayons in this manner and underwent a systematic process of learning to write. Occupational therapy consisted of teaching her to control implements of various types and to make such objects as leather folders.

On May 20 physical therapy was begun. The result was excellent, in that full range of motion of both knees and both wrists was obtained within a short time.

The patient complained about gaining too much weight and asked to be placed on a reducing diet. Her frame of mind was excellent, and it improved as she learned to do things with the remaining thumb. The appearance of the extremities on June 28, 1951, is shown in Figure 10. The lower limb stumps were revised on July 16 to accommodate prostheses. The patient was discharged to a convalescent home on Aug. 8, 1951, six months after admission, where she awaited fitting of lower limb prostheses.

COMMENT ON POST-HYPOTHERMIC SEQUELAE

The sequelae that have been described in this case were apparently much severer than those described in previous reports of human hypothermia. They occurred in the presence of what we believe can be considered good present day treatment.

The severest physiologic sequelae in our case occurred within the two-week period following exposure. They were reflected in most of the body systems, predominantly in electrocardiographic changes and in alterations in water and electrolyte metabolism. During this period there occurred an apparent hypervolemia with

23. Laufman, H.: Pathological Findings in a Case of Profound Hypothermia with Severe Frostbite, unpublished data.

concomitant hypertension, sodium retention, and azotemia. Attempts to analyze the basis for these deviations from the normal led us to the supposition that actual anatomic damage to the kidney was superimposed on the functional derangements in such organs as the adrenal gland, the kidney, and the heart. This damage was evidenced by the presence in the urine of degenerated renal cells containing fatty droplets, which appeared in the early post-hypothermic period. In another sense, the presence of gangrenous peripheral tissues (hands and legs) may have superimposed further functional deviations through absorption. Evidence for this may be seen in the extremely high potassium excretion and the disappearance of hypertension after the amputations.

Fig. 10.—Final appearance of hands and legs on June 28, 1951, after healing of extensive skin grafting. Motion in all joints was excellent.

The destruction of peripheral tissues due to frost injury presents a difficult therapeutic problem insofar as it is necessary to balance the ill-effects from absorption against a conservative surgical standpoint in which one wishes to preserve the maximum amount of tissue by allowing demarcation to take place.

It appears that some of the views concerning the pathogenesis of frostbite injury to tissues in milder cases require reevaluation when applied to severer cases. For example, in milder cases the loss of viability in peripheral tissue following frostbite is apparently the result of vascular spasm and thrombosis.[24] Observations in a severer case, such as ours, indicate that the loss of viability resulting from direct thermal injury is more responsible for irreversible damage to tissue than is vascular occlusion. Evidence for this is based on the presence of patent, spurting arteries in the midst of necrotic muscle tissue at the time of débridement, as well as the pathologic findings in the amputated lower extremities. At least as far as muscle involvement is concerned, we consider thermal injury rather than vascular occlusion the cause for tissue necrosis in this case. This view coincides with that of Stein [25] and with recent experimental work of Lewis.[26] We found viable superficial granulation tissue and grossly viable fascial structures with underlying necrotic muscle. We feel that this can probably be explained by the fact that muscle is a highly specialized tissue that cannot recover as muscle tissue. It either is destroyed or heals by connective tissue scar. Thus identical exposure of muscle and other less specialized tissue can result in destruction of muscle tissue and not of other tissue.

Anticoagulant therapy was begun 12 hours after admission and continued for some 22 days at therapeutic levels. Yet this therapy had no observable effect on the preservation of tissue. Recent work has indicated that anticoagulant therapy, if begun early enough, is of value in milder cases of frostbite.

We cannot explain the fact that one digit retained its viability despite the fact that it underwent the same apparent degree of frostbite and exhibited the same early stages of tissue change as did the other digits. There appears to be an urgent need for intensive animal experimentation to answer several of the questions raised by the study of this interesting case. We feel that such experimentation should concentrate on physiologic studies and treatment of the more profound degrees of hypothermia and frost injury to tissues, since it appears from our study that conclusions reached in much of the work on milder degrees of cold exposure do not apply to the severer types.

24. Shumacker.[24] Crismon and Fuhrman.[24] Lange and Boyd.[24b] Friedman, N. B.: The Reactions of Tissue to Cold, Am. J. Clin. Path. **16**: 634, 1946. Friedman, N. B., and Kritzler, R.: The Pathology of High Altitude Frostbite, Am. J. Path. **23**: 173, 1947.

25. Stein, I.: Cold Injuries, Arch. Phys. Med. **28**: 348 (June) 1947.

26. Lewis, R. B.: Pathogenesis of Muscle Necrosis Due to Experimental Local Cold Injury, United States Air Force School of Aviation Medicine, Proj. Rep. No. 21-23-006, May, 1951.

Genetics and the Environment.—One of the earliest and farthest-reaching fallacies in the philosophical approach to human problems was the belief that if a genetic basis were demonstrated for a certain trait, that trait could not be subject to environmental modification; and conversely, if a trait were shown to be influenced by the environment, it could not at the same time be genetically determined. Although many of us have for years called attention to this fallacy, it still crops up in the literature, especially that of medicine, sociology, psychology, and education.

There is usually an element of fear present in the case of the heredity-environment fallacy. For the physician, there may be a certain reluctance to accept the genetic basis for a disease or anomaly on the grounds that it would thereby be useless to attempt therapy. For the sociologist or psychologist, the reluctance involves the fear that new or changed attitudes could not be brought about if there were any genetic basis for the original development of individual differences in behavior.—Laurence H. Snyder, M.D., Old and New Pathways in Human Genetics, *The American Journal of Human Genetics*, March, 1951.

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RECURRENT THROMBOPHLEBITIS IN OBSCURE MALIGNANT TUMOR OF THE LUNG

REPORT OF FOUR CASES

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and
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In a review of the literature on thrombophlebitis it was noted that Trousseau [1] observed that recurrent phlebitis may be the first sign that obscure carcinoma of a visceral organ is present. He attached diagnostic significance to the occurrence of thrombosis in cancer, demonstrating instances of latent cancer of the stomach in which peripheral venous thrombosis was the first symptom to attract attention, as indeed it was in Trousseau himself, who died of gastric cancer. Gouget [2] reported a case of widespread venous thrombosis of eight months' duration; it was the only affection observed during the patient's life, but at necropsy a small gastric cancer was found. Osler and McCrae [3] observed absence of gastric symptoms and 15 different thrombosed veins in a latent case of gastric carcinoma with profound and progressive anemia. Welch [4] in his review emphasized that thrombosis is a recognized complication particularly associated with cancer. He stated that latent and milder types of venous thrombosis of the extremities occurred in cancer and cachectic states, while the severer manifestations of thrombophlebitis occurred in infectious diseases and post partum. He also noted instances of pulmonary infarcts with the latent mild thrombophlebitis of cancer. James,[5] Smith,[6] and Thomson [7] later confirmed this observation. Haward [8] reviewed the incidence of fatal venothrombosis in 2,903 consecutive autopsies, wherein he concluded that carcinoma was second as a predisposing factor. Barker,[9] in analyzing 166 cases of peripheral thrombophlebitis, found that carcinoma was the most frequently associated condition. He also emphasized that thrombophlebitis may be the first clinical manifestation of obscure visceral carcinoma, particularly of the lung or pancreas. He further concluded that in elderly patients in whom thrombophlebitis of either small or large veins develops with a minimal periphlebitis reaction, visceral carcinoma should be suspected if no other cause is apparent. Cooper and Barker [10] reported four cases of recurrent venous thrombosis with obscure visceral carcinoma. One of their patients had a carcinoma of the lung, which was not diagnosed until the autopsy; the carcinoma almost completely occluded the superior vena cava and right main bronchus. The first symptom had been a thrombophlebitis of the calf, which had preceded localization of the tumor in the leg by 18 months. There had been widespread repeated episodes of thrombophlebitis, involving in rapid succession the superficial veins of both lower extremities, the right basilar, axillary and subclavian veins. The patient's symptoms, signs, and x-rays pertaining to the chest had been interpreted as a pulmonary infarct because of the frequent thrombotic phenomena.

The following histories illustrate incidences of thrombophlebitis, antedating primary pulmonary neoplasm, which failed to respond to adequate anticoagulant therapy. Three of the patients had recurrent thrombophlebitis and were considered at one time to have thromboangiitis obliterans.

REPORT OF CASES

CASE 1.—I. R., a 43-year-old white man, was admitted to a hospital on Feb. 28, 1949, complaining of generalized weakness and pain in his left ankle and forearm. Four weeks previously he had had a hemorrhoidectomy after considerable rectal bleeding. His hemoglobin at that time was 56%, and his red blood cell count, 2,450,000.

At the time of this hospitalization, physical examination revealed a well-developed, well-nourished white man. There were no significant positive findings on admission and the patient was treated as a post-hemorrhoidectomy convalescent, with a secondary anemia.

Three days later there was noted a tender reddened area over the right triceps muscle. This subsided in two days. On the next day pain in the right calf and right forearm indicated a palpable vein in the right forearm. At this time a positive Homans' sign was elicited in the calf. A complete roentgenographic study, including x-rays of the chest and gastrointestinal tract, and a blood study were noncontributory.

Two days later there were phlebitic lesions of the lesser saphenous vein of the right leg and of the right elbow veins, associated with tender palpable veins with streaking along their courses. By this time the phlebitis of the right forearm and calf had subsided. Two days later an area of induration and tenderness was noted in the left posterior thigh region. A week later, thrombosis of the right external jugular vein was observed. The vein was tender and palpable for 3 cm. This was the seventh independent thrombosed vein found in 17 days of observation.

From the Medical Service of Dr. Joseph G. Terrence and Chest Surgical Service of Dr. Lew A. Hochberg, of Kings County Hospital, Brooklyn, N. Y.

Drs. William Dock, Joseph G. Terrence, Milton Kaplan, and Jacob Plotkin cooperated in the preparation of this paper. Miss Marie Piccione gave technical assistance.

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2. Gouget, W.: Bull. Soc. Anat. **13**: 203, 1894; cited by Welch, W. H.: Thrombosis, in A System of Medicine, by Many Writers, edited by Allbutt, T. C., and Rolliston, H. D., London, Macmillan & Co., Ltd., 1909, vol. 6, p. 691.
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The case was now completely reevaluated. That this was not a true thromboangiitis obliterans could not be ruled out, despite the adequate peripheral arterial circulation as well as the rapidity of the repeated attacks of phlebitis. It was felt that an obscure cancer or disseminated microarteritis, more commonly called periarteritis nodosa, had to be ruled out, even though the rarity of migratory phlebitis in the latter syndrome was understood. A biopsy of a vein in the involved area was performed and reported as negative for disseminated microarteritis and thromboangiitis obliterans, but the trichinosis precipitin test was positive in a titre of 1:640. We felt, therefore, that we were dealing with an obscure cancer.

One week later the patient's left calf swelled to twice the circumference of the uninvolved leg. There was pain in the left thigh with marked tenderness in the left calf. Homans' sign was positive. The left femoral vein was palpably thrombosed. This was the eighth site of a phlebitic lesion, the previous seven having all subsided. X-rays of the thoracic and cervical vertebras were repeated and revealed a metastatic lesion of the fourth lumbar vertebra. Heparin and bishydroxycoumarin (dicumarol®) therapy were instituted to prevent further thromboembolic phenomena. Two days later an anterior chest pain developed, which was diagnosed as a small pulmonary infarct. Eight days after administration of adequate anticoagulants, edema of the left ankle was noted. This was associated with pain and calf tenderness. The swelling progressively extended beyond the knee to the inguinal region. At this point the patient began to fail rapidly. X-rays of the chest were repeated and a diagnosis of a primary carcinoma of the lung was made. Three days later, while still under anticoagulants, the patient reported pain in his right foot. On the next day the left foot became painful and cold and lost sensation. In 48 hours, gangrene of the right foot set in, and the next day there was bilateral foot gangrene. The patient became more cachectic and died on April 15, 1949.

At autopsy a peripheral adenocarcinoma of the right lung was found. The tumor was found in the most superior portion of the right lower lobe and measured but 1 cm. in its greatest diameter. In the left lower lobe there was a pulmonary infarct. Metastatic carcinoma involved the fourth to the eighth thoracic vertebras and the fourth and fifth lumbar vertebras, including the superior portion of the sacrum.

The small 1-cm. lesion found at autopsy was not recognized early on a routine roentgenogram of the chest. It is noteworthy that the symptoms referring to the chest were not present until development of a pulmonary infarct.

The absence of symptoms referable to the chest does not exclude the possibility of a primary cancer of the lung. Primary tumor of the lung in the parenchyma or periphery rarely presents many symptoms. The size of the primary lesion bears no relation to the possibility of diffuse metastasis.

Although the pathologist was unable to demonstrate local venous thrombosis at the areas of metastases, we feel that the venous stases at these areas predisposed to the thrombophlebitis.

In this patient, we observed 10 different thromboembolic phenomena involving all four extremities, including a pulmonary infarction and bilateral foot gangrene. Despite adequate anticoagulant therapy, we observed no effect in preventing further thromboses. The new thrombophlebitis preceded the localization of the primary focus in the lung by one and one-half months.

CASE 2.—V. G., a 43-year-old male butcher, was referred to us by Dr. Milton Kaplan. While at work, the patient had scraped his left leg on a metal corner. He had immediately consulted a physician, who had treated him for a phlebitis of the left leg. This had subsided in four days. Several days later a phlebitis of his right leg had developed, which had subsided in three days. A week later there was development of phlebitis of the left arm. He had then been hospitalized with a provisional diagnosis of thromboangiitis obliterans. One week later, after hospitalization, a sudden pain occurred in the right part of his chest, which was treated as a pulmonary infarct of the right lung. X-ray of the chest confirmed the infarction. At this time anticoagulant therapy was instituted. After one week, despite adequate anticoagulant therapy, there was a recurrence of the phlebitis in his left leg. This was greater in extent and intensity than the previous involvement, with marked edema associated with swelling up to the loin. This phlebitis subsided in one week, and the patient was then discharged for home care. After being home for two days, he suffered an intense back pain localized at the level of the lower thoracic vertebras. He was then rehospitalized. X-rays of the thoracic vertebras were interpreted as showing a mild osteoarthritis of the eighth thoracic vertebra.

After he had been in the hospital for six weeks, he continued to run a low-grade fever. During this time, he had lost 40 lb. (18 kg.). His clinical picture was reevaluated, and the suspicion of a cancer or a chronic pancreatitis was entertained. While the patient was in the hospital, six months after the onset of the original illness, a chain of palpable lymph nodes developed in his left cervical and supraclavicular regions. Simultaneously, there was a recurrent phlebitis of the right brachial vein, which subsided in four days. Then a cervical lymph node was removed and reported as metastatic adenocarcinoma. Review of the previous x-rays of the chest taken for the pulmonary infarct, in view of the biopsy results, made us suspect the presence of a neoplasm. On April 1 Horner's syndrome on the left side and paralysis of the right side of the face with developing hoarseness were noted. By the next day the patient was barely able to utter sounds, and 24 hours later a complete right hemiplegia developed. His family took him home with the knowledge that he would die shortly. The day after leaving the hospital, he lapsed into a coma and died.

Autopsy findings revealed a large circumferential peribronchial adenocarcinoma, 5 cm. in diameter, in the right upper and middle lobes. There was marked enlargement of the mediastinal lymph nodes, each 3 cm. in diameter. The right lung base, which was the location of the previous pulmonary infarct, was necrotic. The brain had a small pea-sized encysted area of tumor tissue in the left parietal region. There was metastasis to the eighth thoracic vertebra.

A thrombophlebitis developed in this patient's leg, which originally appeared to be the result of trauma. Subsequent to this, there was rapid development of a thrombophlebitis in the opposite leg, a pulmonary infarct, thrombophlebitis of both upper extremities, and then an iliofemoral thrombosis. Adequate anticoagulant therapy had no effect in preventing the thromboembolic phenomena. This patient likewise had metastasis to the thoracic vertebras. The recurrent thrombophlebitis preceded the recognition of the primary focus in the lung by six months.

CASE 3.—E. S., a 42-year-old white man, was referred to one of us by Dr. Jacob Plotkin. The patient complained of pain in the right leg of 10 days' duration, associated with intermittent claudication. Physical examination was essentially negative. The oscillometric readings were normal. There was no evidence of thrombophlebitis; nor were there symptoms referable to the chest at this time. Three months later, in Aug. 1947, the patient returned with evident thrombophlebitis of his left leg associated with swelling, streaking and a palpable vein. The diagnosis of thromboangiitis obliterans was made. Intravenous typhoid therapy was instituted, and the patient was advised to stop smoking. One week later, after he had received five injections of

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typhoid vaccine, the thrombophlebitis subsided. Despite typhoid therapy, after another week streaks over the inner aspect of the right elbow and left ankle were noted. After four more days thrombophlebitis subsided in these areas.

One month later the patient complained of pain in the right part of his chest. He was then reexamined and fluoroscoped, whereupon elevation of the right dome of the diaphragm was noted. He was then hospitalized for further investigation. After he had been in the hospital for two weeks, a right pleural effusion developed which produced dyspnea. The chest was tapped and 250 cc. of clear, colored fluid was removed. A cell block was made of the sediment, which was found to contain many abnormal cells with mitotic figures. This was reported as anaplastic carcinoma of the lung. X-rays of the chest following the removal of the fluid revealed a definite mass 8 cm. in diameter in the right middle and upper lobes of the lung. This was interpreted as a primary malignant tumor of the lung. The patient began to fail rapidly. During this time multiple areas of recurrent thrombophlebitis developed in his upper and lower extremities. The thrombophlebitis recurred and disappeared in rapid succession. He was sent home after two months of hospitalization and died three months later after developing a superior vena cava syndrome, as well as convulsive seizures. No autopsy was performed.

Fig. 1.—Posterior-anterior view of the chest. Note the large circular mass in the left lung field.

This patient, like the other two, had recurrent thrombophlebitis with many different bouts; each was of short duration and subsided spontaneously. The thrombophlebitis preceded the identification of the primary tumor in the lung by four months.

CASE 4.—J. K., a 66-year-old man, was first seen when he complained of the painful swelling of his right ankle, of three months' duration. The pain in the ankle was located along the medial malleolus, with swelling extending up to the calf. There were calf tenderness and a positive Homans' sign. Two and one-half months after the onset of the thrombophlebitis he developed a cough and dyspnea.

The patient was hospitalized and a diagnosis of carcinoma of the lung was made (Figs. 1, 2 and 3). X-rays showed a large mass 10.5 cm. in diameter in the left lung. Pneumonectomy was performed and the diagnosis of carcinoma of the lung confirmed. The patient was discharged after two weeks and his follow-up for nine months postoperatively was uneventful.

This patient had but one episode of thrombophlebitis, which preceded the diagnosis of the primary lung tumor by three months. There has been no recurrent episode of thrombophlebitis since the removal of the primary focus.

Fig. 2.—Close-up of the pneumonectomized left lung, revealing the shiny, white, infiltrating, gross appearance of the tumor tissue.

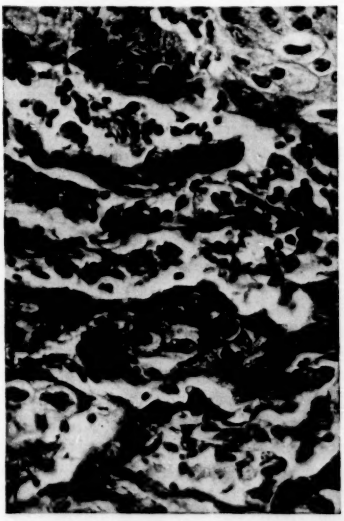

Fig. 3.—Primary adenocarcinoma of the lung, evidenced by cell structure (× 367).

COMMENT

Clinically, lesions of superficial thrombophlebitis associated with carcinoma are characterized by thrombosis of the vein with little evidence of inflammatory reaction, and they subside in a few days. Usually they can be distinguished from the lesions of idiopathic recurrent thrombophlebitis and from those of superficial thrombophlebitis that occur in thromboangiitis obliterans. The histological picture of thrombophlebitis associated with carcinoma reveals relatively few fibroblastic cells in the thrombus and only a minimal degree of inflammatory reaction in the media and adventitia coats of the veins. This picture would indicate why this type of phlebitis clears up after a few days with little residuum, whereas lesions of superficial thrombophlebitis show much more fibroblastic proliferation and slower resolution.

In the last 10 years at the Kings County Hospital, there have been 934 known cases of carcinoma of the lung; of this group, 525 patients died of carcinoma of the lung. Cancer of the lung is so closely linked to the modern attack on other types of cancer that some observers [11] believe that this disease is actually increasing. Others [12] argue that it is only being identified more accurately in recent decades. All [13] agree that it is more frequently encountered and is one of the most important types of malignant disease in the male, second only to cancer of the stomach. There is no explanation for the remarkable fact that primary cancer of the lung is six to eight times as common in men as it is in women. The actual cause of lung cancer is as obscure as that of thromboangiitis obliterans.

As with other neoplasms, early diagnosis is of paramount importance. The diagnosis of a parenchymal lesion is often overlooked for long periods because of the paucity of symptoms and signs relative to the chest. Routine x-rays of the chest may not give definitive information in early cancers of the lung, but tomography may. Bronchoscopy may reveal early cancers in the large bronchi in about 60% of the cases. The microscopic examination of the sputum for cancer cells has gained in accuracy in the hands of trained diagnosticians, making available another adjunct for early diagnosis of cancer of the lung. Occasionally the shadow cast by x-rays is sufficiently suggestive of a tumor. Serial x-rays are indicated on suspicion alone.

The present methods used for determination of increased coagulation of the blood have failed to give any accurate approaches to the treatment of thromboembolic phenomena. Recently, Ochsner and DeBakey [14] reported the use of aqueous alpha tocopherol intramuscularly and calcium intravenously to control the antithrombin titre and thus prevent further thromboses. Further investigation should help confirm their valuable findings.

Sproul [15] found in a post-mortem study of 200 cases of carcinoma of the kidney that the renal vein or vena cava was involved in 22.5% of the cases. Sproul also reported thrombosis present in 56% of cases of carcinoma of the body or tail of the pancreas. In 31% of the cases, thrombosed vessels were observed in various parts of the body. It was assumed that some change in the coaguability of the blood must occur in many of these cases of carcinoma associated with thrombophlebitis.

It is worthy of emphasis that recurrent thrombophlebitis of the patients reported herein preceded the localization of the lung tumor by one and one-half to six months. The phenomenon may have occurred at a stage too early for detection of the neoplasm and antedated any definite signs or symptoms of the lesion of the lung.

SUMMARY

We have presented four cases of carcinoma of the lung: All patients were men, three of whom were suspected of having thromboangiitis obliterans, and all had clinical attacks of thrombophlebitis.

It is suggested that recurrent thrombophlebitis of adult males should be considered as a warning sign of hidden carcinoma. It is felt, as a result of this study, that early recognition of the second attack of thrombophlebitis, regardless of its location, mildness of intensity or shortness of duration, should result in a thorough and continuous study to rule out a developing cancer of the lung. It is our opinion that many of those patients who were previously considered to have had recurrent idiopathic thrombophlebitis, if studied persistently, would have been found to have had a latent visceral cancer. It is further suggested that when adequate anticoagulant therapy does not prevent further thromboembolic phenomena, a cancer should be suspected.

44 W. 55th St. (Dr. Fisher).

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14. Ochsner, A.; DeBakey, M. E., and DeCamp, P. T.: Venous Thrombosis, J. A. M. A. **144**: 831 (Nov. 4) 1950.

15. Sproul, E. E.: Carcinoma and Venous Thrombosis: The Frequency of the Association of Carcinoma in the Body or Tail of the Pancreas with Multiple Venous Thrombosis, Am. J. Cancer **34**: 566 (Dec.) 1938.

Drug Metabolism.—The study of the metabolism of drugs can be valuable, not only in elucidating their mode of action, but also in the search for more useful drugs. One might find that it is better to use as a drug an active metabolite rather than the original substance or one might be able to avoid the toxic effects of a drug by modifying its structure so that it does not produce toxic metabolites. . . . Furthermore, the duration of action of a drug may be determined by its rate of transformation to inactive metabolites . . . and it may be possible to synthesize a drug whose duration of activity is known beforehand because one can predict from its structure its metabolic fate. These suggestions, however, presuppose a fund of fundamental knowledge concerning the fate of all kinds of organic structures. This knowledge has, as yet, only been partly acquired, but the prospects of acquiring it with new techniques . . . are bright.—R. T. Williams, *Annual Review of Biochemistry*, Stanford, Annual Reviews, Inc., 1951, p. 442.

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APPLICATION OF THE LAND METHOD OF FILM PROCESSING IN ROENTGENOLOGY

PRELIMINARY REPORT

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and
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A new one-step, essentially dry photographic process was publicly described in 1947.[1] The process had certain desirable features that made it applicable to roentgenography. This paper describes a joint program of investigation into certain roentgenologic applications of this process which utilized the technical facilities of the Polaroid Corporation and the medical facilities of Massachusetts General Hospital.

Because the program has amply demonstrated the immediate applicability of the method in particular instances, a preliminary description and discussion is necessary.

PROCESS

The Land process used in radiology is similar in its essentials to that used in amateur photography.[2] Several modifications have been made, however, in the physical form of the materials and equipment.

The process utilizes two sheet materials, a negative sheet bearing a light-sensitive emulsion and a positive sheet on which the permanent positive radiograph is produced. The positive sheet bears a special coating which is not sensitive to light. The Land X-ray Pack consists of a negative and a positive sheet, joined to a common leader. The negative sheet is enclosed in a light-tight black paper envelope to permit handling and loading in daylight.

The necessary processing reagents, in the form of a viscous jelly, are contained in a thin pod attached to the leading edge of the positive sheet. The pod is hermetically sealed to protect the reagents against moisture and water vapor before use. It is so constructed, however, that when it is subjected to pressure it will burst along one edge and permit its contents to spread between the sheets to form a thin "sandwich."

A special cassette has been developed for this pack. In appearance it resembles a standard casette and may be handled as such after loading, which may be done without the aid of a darkroom.

Only one intensifying screen is required, since only a single emulsion coat is to be exposed. The screen is removable. To load the cassette, the back is removed, the pack laid within, and the intensifying screen placed between the negative envelope and positive sheet. The back of the cassette is then attached and latched, and the black envelope is removed from the negative by pulling a tear-string and withdrawing it through the end of the cassette. Pressure is then applied by means of a lever to assure uniform contact between the screen and the sensitive emulsion. The cassette is now ready for exposure in the ordinary way (Fig. 1).

After exposure, the cassette is placed in a small box, the chief function of which is to withdraw the pack, but not the intensifying screen, from the cassette and pass it between motor-driven rolls into a compartment where development takes place (Fig. 2). The rolls break the pod, causing the reagent to spread in an extremely thin, uniform layer between the negative and positive sheets. Processing is complete within one minute, after which the sandwiched sheets are taken from the box and peeled apart. The negative sheet is discarded, while the positive sheet, instantly dry, is ready for examination.

The personal labor factor is practically nil. The technician need only place the cassette in the box, relieve the pressure on the pack, and press the motor switch. The rolls stop automatically.

During the one-minute development period, a complex set of reactions takes place. The developer present in the reagent reduces the exposed silver halides of the negative emulsion to metallic silver. Meanwhile sodium thiosulfate (hyposolution) also present, dissolves the unexposed halide to form a silver halide complex. The silver of this complex is deposited in the form of metallic silver upon the positive sheet to produce a positive of the developed negative. Owing to the extreme thinness of the reagent layer and the fact that the images formed are produced in the surface layers of the sheet materials, the reactions involved run to completion rapidly, and minimum opportunity is afforded for degradation of the positive image from random migration of the dissolved silver halide complex. Thus, accurate duplication of the developed negative image with a reversal of density values is obtained upon the positive sheet.

In one form of the process, heavy metal sulfides aggregated in galaxies of chosen diameter and so maintained throughout the process are used cyclically to deposit the silver of the silver thiosulfate complex in arrays of desired diameter and constancy of diameter. The less readily reducible thiosulfate transports the silver ions from the negative and gives up its silver to the heavy metal sulfide at the site of the positive to form the more readily reducible silver sulfide. The reduction of the silver sulfide completes a chain of reactions in which the thiosulfate and the silver ions are freed for further reaction. Cyclic use of sodium thiosulfate and sulfide and the preservation of the sulfide ion by the presence of an excess of metal ions makes possible the formation of a dense image with but trivial amounts of silver solvent and sulfide ion. Integrated with these reactions are further chemical mechanisms which operate to give the positive print acceptable permanence without after-treatment.

Director of Research, Polaroid Corporation (Dr. Land).
Radiologist-in-Chief, Massachusetts General Hospital (Dr. Robbins).

Read before the Section on Radiology at the One Hundredth Annual Session of the American Medical Association, Atlantic City, June 15, 1951.

1. Land, E. H.: A New One-Step Photographic Process, J. O. S. A. 37: 61-77 (Feb.) 1947.
2. Land, E. H.: One-Step Photography, Photographic Journal 90-A: 7-15 (Jan.) 1950.

APPLICATION TO ROENTGENOGRAPHY

Technical Details.—At the present time the x-ray exposure is made with higher factors (as much as 8 to 15 kv.) than would be employed for ordinary x-ray film in a similar examination. It seems reasonably certain, however, that in the future the factors can be reduced to the same as, or possibly even less than, those used with conventional film. One-minute processing, coupled with daylight loading, results in a marked decrease in time over other types of processing which have been tried in the Massachusetts General Hospital. Therein lies the great advantage of the method. Speed is of course extremely valuable in operating room procedures such as the nailing of fractured hips, the reduction of fractures, and the removal of foreign bodies. The method was successfully employed during nailing of hip fractures and it was estimated that because of it at least one hour was saved, thus shortening the operating as well as the anesthesia time.

Fig. 1.—Daylight loading of cassette.

The method has practical value also in the examination of traumatic conditions suffered by patients admitted to the emergency ward. In seriously injured or acutely ill patients, the availability of a roentgen examination which furnishes within one minute's time an image of the part in question may well prove lifesaving.

If a gross fracture is clearly demonstrated by the rapid processing technic, no further examination may be needed. If no fracture is recognized, however, in order to satisfy appropriate conservatism as regards the care of the patient and until further experience has proved the absolute consistency of this particular method, the routine roentgenographic examination is carried out.

There also appears to be immediate usefulness of the process in other fields of endeavor, particularly the military.

Comparison of the Method with Routine Examination.—Up to the present time, check-up study has confirmed the findings of the faster method. It would seem that approximately the same amount of information is obtainable from a properly exposed positive print as from the usual x-ray film, although it may take somewhat longer to recognize the abnormalities (Fig. 3). There is perhaps slightly less latitude permissible with the use of paper prints than with ordinary film; the technician must be even more accurate in selecting the correct exposure factors. The contrast range with the two technics is fairly comparable when the proper exposures are made. Of considerable importance is the fact that definition and detail have been shown to be as good on the paper print as on the ordinary film under optimum exposures.

Fig. 2.—Insertion of the cassette into processing unit.

Certain factors limit overwhelming enthusiasm for, and widespread application of, the method to roentgenography. None of these factors, which are briefly reviewed, seems, however, to be irremediable.

1. The fact that the examination is made on paper and therefore requires observation by means of reflected light results in a certain loss of density range which is not presented by the usual transparency. Reflected light may seem inadequate to the roentgenologist, and because of this type of lighting his difficulty in obtaining as much information from the paper print may prove a limiting factor. Since transparent prints made by the process have already been announced in the camera field, it is to be expected that they will be made available for roentgenography.

Fig. 3.—Anteroposterior view of a shoulder.

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2. Experience has shown that even though roentgenologists are in the habit of seeing positive images fluoroscopically, some may experience a definite aversion to viewing a positive print. Whether this is related to the physiology of rod and cone vision or is simply due to habit is not certain, but there is no doubt that the average roentgenologist prefers to view the object in a negative phase as well as in a transparent form.

3. The present size of the print restricts roentgenographic application of the method. The film packet now available is approximately 9 by 9 in. (23 by 23 cm.), but there is every reason to believe that, in the future, larger sizes, up to 14 by 17 in. (36 by 43 cm.), as well as smaller sizes, will be obtainable. Complete examination of either the chest or the abdomen on a single print is not yet possible; the optimum present use of the method lies in examination of the extremities and the skull, and in certain operating room procedures for which the current-sized print is adequate.

4. When prints are to be handled considerably for reexamination, it has been found desirable to lacquer the image-bearing surface of the print, as it scratches somewhat easily. After lacquering, the prints can be handled in any ordinary manner without fear of scratching—that is, it can be transferred from the x-ray department to the wards, handled on the wards in no discriminating manner, and become no more scratched than an ordinary film. Any scratching that has occurred prior to lacquering has not been sufficient to eradicate the pertinent diagnostic points. It is anticipated that the high surface-resistance features of materials now being introduced in other fields will be extended to the materials used for x-ray work so that this lacquering will be unnecessary.

5. Under usual loading conditions the print, in contrast to a transparency, can be viewed only from the position of the x-ray tube. This may again reverse the habit of the roentgenologist, particularly in the examination of the chest, gastrointestinal tract, or gallbladder. It is not, however, a serious drawback as it can be overcome by inverting screen and pack within the cassette.

COMMENT

The future offers opportunities for further utilization of this method of processing. With it, accurate placement of radium needles may be determined in the operating room before the effects of anesthesia have worn off. It has already been used in photofluorography in a modified manner,[3] and its routine application may become possible.

It should be reemphasized that improvements are being made in the method and that it is undergoing constant change and revision. The limitations of today may be overcome tomorrow. It is expected that the future will see the development of varying sizes of film up to 14 by 17 in., the use of a transparent medium as well as paper, and faster emulsions. If required, consideration can be given to the production of the image in the negative, rather than in the positive, phase. When these developments become available, general use of the Land method in the processing of films in roentgenography can be anticipated.

CONCLUSIONS

1. A significant advance in processing of roentgenographs is described.

2. Although there are still certain limitations for general application of the method in roentgenography, none of them appears to be insurmountable.

3. Because of the speed of the method, the time required for roentgen examination can be markedly reduced. This reduction in the time element is advantageous for the roentgenologist, the surgeon, and, more important, the patient.

3. Weens, H. S.: Personal communication to the authors.

FATAL PAUSE IN DIAGNOSIS OF NEOPLASTIC DISEASE IN PHYSICIAN-PATIENT

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The problem of cancer has, in the past few years, been taken from the realm of darkness and dragged into the public eye. This is the same path that has been followed by poliomyelitis, syphilis, tuberculosis, and many other diseases having both a physical and social implication. A large part of the responsibility for bringing this problem into the public eye has been given to the physician, who in his role as healer and public servant has worked steadfastly toward a better understanding of cancer, its diagnosis, and its treatment. This attitude on the part of the physician toward education, early diagnosis, and treatment is in direct contrast to his actions concerning his own situation in this matter.

The most important sources of professional education and information are schools of medicine and those hospitals having a residency-training program, but beyond these the American Cancer Society conducts an extensive professional education program. In the fiscal year 1949-1950 the American Cancer Society and its various component units spent better than $710,000 for such activities. This program was designed to stimulate interest in the problem of cancer on the part of the physician and to enable him to diagnose earlier and treat more efficiently malignant neoplastic disease. To evaluate the use made by the physician of his education and professional experience, a study was undertaken in two large metropolitan hospitals. The study had as its basis the physician-patient who was admitted to these two hospitals with neoplastic disease. My colleagues and I were interested in the char-

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acter of the neoplasm, its stage of development, and most especially in the time lapse between the onset of clinical manifestations and the initiation of adequate diagnostic study. The results that were found were on the surface surprising, but with an honest approach one may look within himself and easily find the true explanation.

During the period of 1925 to 1950 a total of 60 physicians were admitted to the two general hospitals concerned in this study. These men came from Northern Alabama, Middle Tennessee, and Southern Kentucky, a group representing a largely rural community. Less than 10% of these men might be called specialists. The other 90% come from the large and essential portion of our medical population in general practice. The primary site of the tumors in these patients is shown in Table 1. As might well be expected in a series of male patients, there are four predominant sites, the most frequent of which is carcinoma of the prostate, the second, carcinoma of the upper intestinal tract, the third, carcinoma of the large bowel, and the fourth, pulmonary neoplasms. There was only one woman in the series, and her presenting symptom was vaginal ulceration of six-months' duration. The distribution of the lesions is not remarkable in itself, but for the four sites principally concerned a breakdown has been carried out as to the extent of the lesion at the time the physician first presented himself for treatment and as to what operative procedure could be carried out at that time. Table 2 shows that only 7 out of a total of 37 patients had primary lesions without either extension to the regional lymph nodes or distant metastases. In only five of these physicians were curative procedures carried out. In fact, 13 patients (Table 3) were deemed inoperable at the time of their original hospitalization. In every instance and without delay the physician consulted made an adequate diagnosis and advised appropriate therapy. There are only two adequate explanations for this situation: (1) physicians as a group have more malignant neoplasms than the average run of the general population, which is difficult to believe, or (2) physicians show a greater negligence of their own disorders than in the management of patients who consult them professionally.

TABLE 1.—*Primary Sites of Neoplasms*

	Number		Number
Prostate	12	Central nervous system	5
Upper gastrointestinal tract	9	Upper respiratory tract	4
Lower gastrointestinal tract	9	Skin	3
Lung	7	All others	11
Total			69

My colleagues and I carried further the study of the physician-patient and determined for each person concerned the time lapse between the onset of clearly suggestive symptoms and the initiation of diagnostic procedure. By clearly suggestive symptoms are meant those cardinal findings of persistent, severe cough, chest pain, or hemoptysis in the instance of carcinoma of the lung; of jaundice, dysphagia, vomiting, hematemesis, or melena in the instance of carcinoma of the upper gastrointestinal tract; of change in bowel habits, bloody stools, or recurring cramping abdominal pain in the instance of large bowel neoplasm. In every instance the time lapse indicated has been that between the onset of some one or more of these manifestations and the initiation, on the part of the physician-patient, of some effort at diagnosis or treatment. In Table 4 the average time lapse for each disorder is shown. In no instance among those patients with large bowel neoplasm did the physician present himself within the first three months after the onset of some characteristic symptom.

TABLE 2.—*Extent of Neoplastic Process at Admission*

	Localized	With Metastases	Total
Prostate	4 (33%)	8 (67%)	12
Upper gastrointestinal tract	0 (0%)	9 (100%)	9
Lower gastrointestinal tract	3 (33%)	6 (67%)	9
Lung	0 (0%)	7 (100%)	7

TABLE 3.—*Attempted Surgical Treatment*

Location	Curative	Palliative	No Operation
Prostate	2	6	4
Upper gastrointestinal tract	0	7	2
Lower gastrointestinal tract	3	4	2
Lung	0	2	5

During the past 10 years 32,737 physicians have died in the United States, of this total 9.89% of the deaths were due to cancer. In fact, 4.04% (Table 5) were due to cancer of the upper gastrointestinal tract alone. The tremendous importance of early diagnosis and treatment of such prevalent and apparently highly fatal disorders cannot be overemphasized.

It is of interest that this same apparent negligence demonstrated by physicians in the field of neoplastic disease is not carried over into various other types of illness. Only last year it was pointed out that the diabetic person was a "good risk" as a medical student from a health viewpoint, that the life expectancy of the known diabetic physician was only four-fifths of one year less than that of the average physician, and that the average diabetic physician might well look forward to a life expectancy greater than that of his known medical contemporary.

TABLE 4.—*Time Lapse Between Onset of Symptoms and Diagnosis, in Months*

Location	Longest	Shortest	Average
Prostate	36	1	14
Upper gastrointestinal tract	24	1	9
Lower gastrointestinal tract	12	3	7
Lung	18	0	6
Central nervous system	6	1	3

TABLE 5.—*Relative Mortality of Physicians Due to Cancer, 1940-1950*

Total No.	Due to Cancer	Due to Upper Gastrointestinal Tract Cancer Alone
32,737	9.89%	4.04%

Quite possibly this problem should have been approached by a psychiatrist rather than a surgeon, since lack of insight and mental blocks undoubtedly play a dominant role. The facts remain that in the presence of neoplastic disease physician-patients present themselves for treatment later and that their cancers have a comparably poorer chance of cure than those of the general population.

Vanderbilt University Hospital.

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INTEGRATED TEACHING IN THE BASIC SCIENCES

REPORT ON FIVE YEARS' EXPERIENCE

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and
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The Flexner report on "Medical Education in the United States and Canada"[1] marked a turning point in the history of American medical schools. Among other things, Flexner found that, at the time of his report, the laboratory sciences were too much subordinated to clinical teaching. This defect was gradually corrected by the schools. However, the Commonwealth Fund, in its annual report of 1950, has noted that the pendulum has now swung to the other extreme and that these sciences now stand too much alone, so that their relation to clinical judgment is often left unclear in the student's mind. The Commonwealth Fund report emphasizes that

> . . . the first two years of medical school are characteristically split into discontinuous fragments and that the student is given little help in putting them together. In the poorer schools one department may neither know nor care what another teaches. Even in the better ones, each department is for the most part a law unto itself. No school known to the Fund has yet brought the half dozen medical sciences together into a comprehensible whole; none has thoroughly "kneaded them" as Flexner suggested; they remain for the average student pieces of a jig-saw puzzle that so far as he knows was not even a whole picture to start with.[2]

The concept of integrated teaching is not a new one. Some schools have already integrated all teaching in a limited field (such as neurology), and many have instituted conferences correlating physiology and pathology with clinical medicine and surgery. Some medical educators have urged the complete breakdown of departmental barriers so far as teaching is concerned,[3] but to the best of our knowledge no school has put such a plan into practice.

Five years ago the Graduate School of Medicine of the University of Pennsylvania began an experiment in the integration of the basic medical sciences for instruction of graduate physicians. This has proved to be such a successful method of teaching that we believe the general plan should be called to the attention of all those interested in medical education. We hope that our experience will give encouragement to medical faculties who are giving serious consideration to such a program.

DEVELOPMENT OF PLAN

A brief account of the development of the plan may be of interest. Within a period of two years, a new faculty was appointed in most of the basic science departments. In the year 1946-1947, the newly appointed professor of physiology and pharmacology gave a course of 90 lectures in physiology and pharmacology, in which these two basic sciences were integrated with each other and correlated with clinical medicine. In the middle of this academic year a new professor of physiological chemistry was appointed. In addition to completing the regular course in physiological chemistry, he also presented several lectures on related chemical matters in the physiology-pharmacology course. Because this type of coordinated teaching made a favorable impression on the students, the two professors agreed to expand this method of teaching.

In 1947 a new professor of pathology was appointed. He was equally enthusiastic about the concept of coordination of teaching in the basic medical sciences. Consequently, in 1947-1948 the major portion of the teaching in physiology, pharmacology, physiological chemistry, and pathology was integrated completely. Since then, the faculty in the departments of bacteriology, immunology, and physical anthropology have also joined in this teaching program. The departments remain separate for administrative and research purposes, but cooperate in presenting what has now grown to be a lecture course of seven hours a week throughout the 31-week school year for the 300 to 350 student-physicians in the Graduate School of Medicine.

DESCRIPTION OF PLAN

Our students are physicians training to be specialists in one of 19 fields of medicine or dentistry. They receive a considerable amount of highly detailed training in anatomy, pathology, and physiology related to their specific interests, and, because of this, it is impossible to correlate *all* teaching in such a large graduate school of medicine. However, all physicians, regardless of specialty, are required to acquire a thorough understanding of the body as a whole. This is achieved through the "Correlated Clinical Science Course" of 217 lectures, panel discussions, or case presentations each year. The general arrangement of the schedule is on the organ system basis. Physiology, physiological chemistry, pathology, bacteriology, immunology, pharmacology, and physical anthropology are presented together as they pertain, in turn, to the kidney, circulation, heart, blood, lungs, alimentary tract, liver, gall bladder, pancreas, metabolism and nutrition, nervous system, and physical medicine. In certain instances several lecturers may share an hour, so that physiology, pathology, or chemistry, for example, may be presented in logical sequence.

A detailed plan of the approach to one single organ system is given as an example.

From the Graduate School of Medicine, University of Pennsylvania.

1. Flexner, A.: Medical Education in United States and Canada, Bulletin No. 4, New York, Carnegie Foundation for the Advancement of Teaching, 1910.
2. Annual Report, New York City, Commonwealth Fund, 1950.
3. Report to American Surgical Association of Committee on Undergraduate Medical Education, Tr. Am. S. A. **68**: 523-554, 1950. Atchley, D. W.: Orientation of Undergraduate Medical Curriculum, Science **104**: 67-70, 1946.

URINARY SYSTEM

1. Anatomy, histology, and embryology of the kidney, with especial emphasis on the glomeruli, tubules, and circulation.

2. Glomerular filtration: factors influencing glomerular filtration; measurement of glomerular filtration in man.

3. Tubular reabsorption: water reabsorption; clinical disorders involving water reabsorption; the posterior pituitary; glucose reabsorption; glucose Tm (maximal tubular reabsorptive capacity); chemical factors involved in glucose reabsorption; reabsorption of sodium and chloride.

4. Tubular excretion: production of acid and ammonia by the kidney; para-aminohippuric acid clearance; drugs excreted by tubules.

5. Renal blood flow: methods for measuring; factors regulating renal blood flow.

6. Clinical examination of the urine: hematuria, albuminuria, and casts.

7. Pathology of the glomeruli and tubules: nephritis, nephrosis, lower nephron ischemia, nephrosclerosis.

8. Correlation of old and new renal function tests with physiological, chemical, and pathological studies in renal disease.

9. Renal insufficiency: uremia; anuria; management of anuria and renal insufficiency; artificial kidney.

10. Acidosis. This includes a presentation of acid-base (ionic) balance in general, renal acidosis, and other types of clinical acidosis; compensatory mechanisms involved in clinical acidosis; treatment of acid-base imbalance; parenteral fluid therapy.

11. Edema: hypoproteinemia; protein deficient states and their management; diuretics.

12. Renal pelvis and ureters: physiology, pharmacology, and pathology.

13. Urinary bladder: physiology; clinical disorders of bladder function; pathology.

14. Infections of the kidney, pelvis, ureters, and bladder.

15. Prostate gland: physiology; endocrinological relationships; hypertrophy, carcinoma, and infection; treatment.

16. Panel discussion. Questions are submitted by the class and answered by the basic science faculty group as a panel. Differences of opinion that arise are debated in a friendly spirit.

17. Case presentation. Selected cases of renal disease are presented by a clinician and discussed by the clinician and the basic science faculty as a group.

ADVANTAGES OF PLAN

The change from the usual method of presenting the basic sciences as separate, unrelated courses, in favor of this integrated course is considered to be a significant step forward in medical education. It has enabled the student physicians to see clearly the integration of the various basic sciences and their correlation with clinical medicine. Student-physicians in anesthesiology, dermatology-syphilology, gastroenterology, general surgery, gynecology-obstetrics, internal medicine, neurology-psychiatry, ophthalmology, oral medicine-periodontia, oral roentgenology, oral surgery, orthodontics, orthopedics, otolaryngology, pediatrics, physical medicine, prosthetics, radiology, and urology have ranked the course each year as among the most popular of all the courses presented in the school. In addition, a number of members of the clinical faculty and their residents, and members of the faculty of the undergraduate medical school, have found it profitable to attend these lectures regularly. The course has also been highly stimulating and rewarding to the basic science faculty members themselves because the success of such a course requires that the faculty in each division attend lectures throughout the first year, and at intervals thereafter. Each faculty group has obtained a clearer concept of the whole picture and has learned to relate its own special field to those of the other medical sciences. The outlook of the faculty members has been broadened not only in the field of teaching but also in research.

EXPANSION OF PLAN

The plan has not yet been carried to its logical completion. At the moment anatomy is not included, though it is hoped that a rearrangement of schedules may permit the inclusion of lectures on anatomy. The clinical departments are not included now in the plan of integrated teaching except insofar as clinicians participate in case presentations.

The coordinated program of teaching requires more of the faculty's time than the current system of presenting courses as a block. This results from the additional planning and from attendance at all lectures, panel discussions, and case presentations. Correlation of basic science with clinical teaching would require further participation in ward walks and clinical seminars. Even though the total number of hours may not be increased greatly, their distribution would probably be such as to reduce the time available for concentrated research. The complete program may lead to the necessity for larger faculty groups to avoid a decrease in research achievement.

APPLICATION TO UNDERGRADUATE EDUCATION

Can such a plan be applied to undergraduate medical education? All of us have had extensive experience in undergraduate medical education, and we believe that integration of both lectures and laboratory work in the basic science courses of the first two years can be accomplished by any faculty genuinely interested in this new type of medical education. Integrated teaching might be accomplished by any one of a number of programs. One such program might begin directly with consideration of one organ system from all points of view. Another might begin with an introductory portion in which each of the departments would present the following material: anatomy department, developmental anatomy or embryology; microanatomy department, histological structure and histochemistry of cells; physiology department, cellular physiology; physiological chemistry department, the nature of enzymes, catalysts, and cellular reactions in general; pharmacology department, modes of action of drugs on cellular structures; pathology department, the nature of abnormal cells and neoplasia; bacteriology department, anatomy, physiology, and chemistry of bacteria; and immunology department, antigen-antibody reactions. Following this introduction, the faculty would present in logical sequence all important information relating to one organ system, and then to another, until all systems had been discussed. Thus the anatomist would present the gross anatomy of the organ system; the microanatomist, its microscopic structure; the physiologist, its normal function; the physiological chemist, its chemical process; the pathologist, the disordered structure and function; and the bacteriologist, the role of bacteria and infection. At this point, some participation by clinicians would aid

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in further correlation. The pharmacologist could then elucidate the effect of drugs on normal and abnormal man.

Laboratory work can be scheduled to integrate with the lectures and conferences. With some organ systems (kidney, for example) an equal amount of laboratory work may be scheduled for anatomy, microanatomy, physiology, chemistry, pathology, pharmacology, and bacteriology; with others, the laboratory work may be largely the responsibility of the anatomy, microanatomy, pharmacology, and physiology staffs (nervous system), or of the chemistry staff (metabolism), or of the physiology, pharmacology, and pathology staffs (cardiovascular system), with less participation of the other departments. Problems of scheduling will arise, but these will not be insurmountable.

Can undergraduate schools go further and correlate all of the basic science and clinical teaching? The concept is an intriguing one, but we feel it will present very serious problems related to scheduling that cannot be solved with the limited laboratory facilities and faculties available.

CONCLUSION

In our opinion, integrated teaching can be successful only if the chief requirements are fulfilled. These are wholehearted enthusiasm on the part of the faculty to participate in this new educational experiment, willingness to ignore small differences of opinion in the interest of harmony and cooperation, and genuine interest in teaching and in the problems of medicine.

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TRAINING IN PSYCHOTHERAPY FOR ALL PHYSICIANS

Eugene Ziskind, M.D., Los Angeles

Every physician should be trained in psychotherapy and expect to use it in his practice. This psychotherapy will not be the same as that by a psychiatrist, but rather a psychotherapy modified to the special needs of the particular clinician and his clientele. A training program to supply the required background and techniques can be made universally available. Such a training program was evolved at the Cedars of Lebanon Hospital in Los Angeles. As similar plans are set into operation throughout the country, it would also be possible to cope with the problems of time and money that now impede the physician interested in this more comprehensive medical approach.

UNIVERSAL PSYCHOTHERAPY

There is fairly wide acceptance of the notion that the practitioner should care for the major psychological and sociocultural factors disturbing his patients, but the idea of psychotherapy practiced by all physicians tends to evoke objection from some practitioners and psychiatrists. Nevertheless, that is what grows naturally out of the needs of current medical practice.

It is generally admitted that about one-third of the patients seen by physicians (general and specialist) have primary psychogenic pathological conditions, one-third have primary physiogenic pathological conditions, and the other third have both, really two different illnesses. Inadequate handling of the large segments of the population with psychogenic illness is one of the major problems of modern medicine and is responsible for the flourishing of many healing cults. Inadequate care for psychogenic pathological conditions is responsible for many, if not most, of the failures in medical practice and fosters the development of chronic neuroses and protracted invalidism. It is extremely urgent that psychosomatic illness be checked at the earliest possible moment, and this is the responsibility of the physician who sees the patient first. The physician seeing the earliest stages of symptom formation is in an opportune position to treat these patients successfully. At the initial appearance of the illness, the causative factors are close to the surface and are readily uncovered. When psychogenic factors are of recent onset, the prognosis is relatively good and a cure not difficult to obtain. The prospect of preventing chronic states, many of which are incurable, is an insistent argument for the earliest possible treatment of psychogenic illness.

Emphasis must be placed on the fact that treatment in this first stage of psychogenic illness is not for the psychiatrist to administer, for at this point the great bulk of patients would resent being referred to a psychiatrist. Furthermore, there are not enough psychiatrists, and their services should be reserved for special problems. The early manifestation of psychogenic factors is not only a special area in which the practitioner can function in his own right, but often it is one in which he alone can achieve the best results.

Once the need for caring for the emotional and social causes of illness in medical patients is recognized, the case for universal psychotherapy becomes clear. The former Chief of Staff at the Cedars of Lebanon Hospital, Dr. M. N. Beigelman, foresaw this when he said, "The time has come when medicine must be reoriented, so that instead of there being the two major disciplines of medicine and surgery, there must now be added a third of equal status—psychiatry." This is particularly significant in therapy. Every physician should be trained in psychotherapy as well as medicinal and surgical therapy.

For the skeptical it is essential to observe that all physicians now do practice some psychotherapy, albeit in many instances it is poor or at least can be improved. But inadvertent and sporadic psychotherapy does not meet the needs of patients in an efficacious manner. They

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may require a more consciously planned psychotherapeutic approach, often with special periods of time set aside for that purpose.

A most important need today is to improve the psychotherapeutic skills of physicians and to assure a more consistent utilization of such skills. Important as it is to convince physicians of the necessity of meeting psychopathological conditions in their patients, it is more essential to demonstrate procedures which are practical and effective. What is now required is a training program for physicians instructing them in the fundamentals of psychopathology, together with diagnostic and therapeutic techniques. Most certainly there should be a teaching of fundamentals to undergraduates. In addition thereto is the fact that for almost a generation to come the greater number of physicians in practice will not be future graduates but, instead, physicians now in practice. Training in medical school must be accompanied, therefore, by a program for graduate physicians, such as the one described herein. The program is being described so that interested physicians can institute similar activities in their hospitals.

TRAINING PROGRAM

In the spring of 1947 a training program was set up in collaboration with the psychiatric department at the Cedars of Lebanon Hospital (a general hospital) for the training of hospital colleagues in psychotherapy. In order to permit practical training which would cut across many of the controversial and confusing aspects of psychiatric theory, it was arranged to have volunteer practitioners examine and treat medical patients with psychogenic problems under the direction and supervision of the staff psychiatrist. Each physician had two to three patients in hourly sessions of therapy once a week. Each week one hour was spent in consultation or supervised observation with a psychiatrist.

Emphasis was placed on practical experiences rather than didactic presentation. In this connection five areas were stressed: (1) fundamentals of psychopathology related to basic origin in conflict, adhering largely to the factual or generally accepted data with avoidance of the controversial and hypothetical; (2) modification of the traditional diagnostic procedure with reorientations in history taking to aid in the eliciting of psychopathological data; (3) a new diagnostic technique—the life history; (4) modification of the traditional therapeutic procedure, with emphasis on the interpretation of psychogenic illness to the patient, and (5) a new therapeutic technique—interview psychotherapy. The acquisition of this background and skill was constantly oriented in the direction of practical expediency. Because the new diagnostic and therapeutic techniques were probably too time consuming to be utilized frequently by the physician, modifications in his usual diagnostic and therapeutic procedure were stressed for routine use. The special techniques would be reserved for special cases and in general served to enhance the physician's background.

Emphasis was placed on brief therapy. This was facilitated by the setting up of objectives for the practitioner which differed from those of the specialist. Insight into the psychogenic origin of symptoms and the uncovering of the current situational or precipitating factors were held to be within the practitioner's sphere. Character reconstruction and the uncovering of childhood nuclear traumas were deemed to be objectives of long-term therapy reserved to the specialist, the psychiatrist. It was emphasized that there was no intent to make psychiatrists of the practitioners.

Up to the present 62 graduate physicians and about 237 senior medical students have gone through the program. Most recently, within the past year, chiefs of the medical outpatient department have decided to incorporate the program into the regular medical clinics so that all their physicians might partake of this training, although certain practical difficulties have prevented its full operation.

The results of the program have included benefits to the patient, physician, psychiatrist, and hospital. For the patient, in addition to relief or improvement of symptoms, there has been proper orientation as to the psychological origin of his difficulty. These benefits of psychotherapy have, at times, been supplemented by the elimination of much unnecessary, wasteful, and even harmful referral from physician to physician and from clinic to clinic. For the physician there has occurred an increase in his security, a feeling of adequacy in the handling of these patients. Response to a questionnaire indicated universally that the physician had acquired techniques which permitted him to be at ease with his patient. One of our physicians said that he now felt justified in charging patients for this type of care. The physicians have acquired direct experience in diagnosis and treatment and an increase in their knowledge of the fundamentals. To the psychiatrists there have accrued sharpened skills as a result of the teaching process, and there has been a better type of case referral from hospital colleagues to the psychiatrists for their specialized treatment. To the hospital have come the benefits of eliminating wastes in unnecessary laboratory tests and specialty referrals. At one point, for the first time in the history of the hospital, the waiting list in the outpatient department diminished to zero.

The training program fits into the traditional pattern by which physicians acquire many practical skills, namely, the pattern of work in hospital clinics. As such it can be included in every general hospital. It is part time and open to all, thus having an advantage over postgraduate courses, which require physicians to give up their practices and which, even then, are scarcely long enough to permit adequate treatment experience. It is, further, based on practical experience under supervision and offers the optimum opportunity for acquiring new skills.

The deficiencies of the program are still manifold. These are, in part, related to the lack of background in fundamental psychiatric knowledge but are also, in part, due to the lack of development in the techniques to be employed in this area. There is much need for more research on short-term diagnostic and therapeutic techniques. It is of interest that in the four years of operation not a single instance of any major mishap as a result of general physicians working in this program has come to my attention.

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POLICIES FACILITATING UNIVERSAL ADOPTION

Although the program was gratifying to those who participated in it and will be continued at Cedars of Lebanon Hospital, it has been considered an experiment in professional training with universal applicability. Indeed, if the program should be duplicated in most other general hospitals, it would result in psychotherapeutic training for the medical profession as a whole. Experience indicates that it cannot be undertaken full-blown from the start. Even with physicians adequately trained, this type of comprehensive medicine could not be universally applied at the present because of the greater periods of time it requires initially. Until the patient has an appreciation of its value and is willing to pay for it, there will be limits to its general acceptance. Because of these factors, the training still to be acquired, and other resistances, the incorporation of this approach by the profession will be a gradual one, even in any one institution.

To facilitate more general adoption the following recommendations are being pursued at the Cedars of Lebanon Hospital: First, there is need for driving home the realization that the greater initial outlay of time, energy, and expense effects a saving in the long run. The increased physician's fees due to more prolonged examinations and therapeutic interviews in great measure effect a saving by the elimination of random laboratory exploration and specialty consultations and the earlier termination of treatment, with the prevention of chronic illness and its associated unending expense.

Second, there is need to establish a priority among patients so that the patient seen in the early stages, which is the patient most amenable to psychotherapeutic care, receives attention before the chronic or incurable patients. The chronic patients are the ones most readily recognized as needing psychotherapy and selected for it; whereas, the ideal therapeutic patient, who is a young person with fairly well integrated personality and resourcefulness who has had symptoms for only a short period, frequently goes unrecognized and is not treated. The chronic or incurable patients are more likely to discourage the physician, obstruct progress in psychotherapeutic training, and even discredit psychotherapy. Recognition and treatment of patients in the early stage is therefore stressed. Methods for the care of chronic patients with the minimum expenditure of energy should be pursued.

Third, a flexible set of therapeutic objectives, graduated from minimal care upward, should be applied as time and facilities permit. Each physician should be taught to apply the principles and formal techniques of interview psychotherapy, but it must be recognized that he needs to adjust his performance to the limitations of the patient and his circumstances. The problem is to discover procedures, less than ideal, that do not sacrifice essentials and that remain effective. It is possible to work with varying standards or techniques, adjusted not arbitrarily or accidentally but modified to meet specific needs. The program at Cedars of Lebanon Hospital proceeded on the assumption that the patient with psychogenic symptoms is better off if he has one session of psychotherapy than if he has none, and better off still if he has two, three, or more. Fortunately, there are forces within the patient tending to promote recovery from psychogenic stress, just as there are homeostatic factors related to physical or organic stress. Many times all the patient needs is a slight boost, and his own resources will accomplish the remainder of the cure. This is particularly true in the beginning stages of psychopathological conditions. Although psychiatrists of all schools of thought were utilized at Cedars of Lebanon Hospital and techniques of psychotherapy were taught that require more time than the average course of medical treatment, the conviction was reached that brief therapy of a flexible type is the optimum procedure for the nonpsychiatrist.

Fourth, a gradual expansion of the program within the hospital and its clinics should be planned in the hope that concomitantly similar changes will take place in the private practices of the physicians in the program. The general hospital outpatient department represents a good place of beginning. With the supervision of consulting psychiatrists, the program can be undertaken first in a special clinic set up for that purpose. Once a few of the physicians have been trained in such a special clinic, they may help reduce the patient load in the medical outpatient department, so that other staff members can be relieved from excessive patient loads and trained in the new techniques. As measures to segregate chronic patients are perfected and the number of chronic patients is reduced by the use of the new approach, still other physicians may be permitted to enter the program. In this way a gradual infiltration of the medical clinics and then the specialty clinics may be made possible. Inpatient wards may be serviced in a similar fashion.

Although the major theses presented in this paper are three—psychotherapy for all physicians, a training program to make this feasible, and some steps required to make possible the widespread adoption of psychotherapeutic medicine—actually the primary purpose is to report the training program. That program carries with it no commitment as to what the physician should be taught. That may vary with the plans and intentions of physicians in different places. Those not sharing the concept of psychotherapy of Cedars of Lebanon Hospital may be interested in training according to their own concepts. One of the chief merits of the proposed system of training is that it is flexible and adaptable to different needs and different orientations. It is hoped that physicians elsewhere will be stimulated to give it a trial.

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Innate Nonsusceptibility to Infection.—Different animal species vary in their resistance to bacterial parasites and toxins. Thus, for example, man is resistant to canine distemper and rinderpest, and the dog and cat do not get measles, poliomyelitis, typhoid fever, and cholera. Sometimes the differences between species are not complete or absolute, as in the above instances, but partial or relative. The mouse is relatively insusceptible to diphtheria toxin—relatively, that is, to the susceptibility of the guinea-pig. The dog and goat are rarely infected with tetanus, and man seldom develops avian tuberculosis. The frog is unaffected by tetanus toxin in the cold, but succumbs on warming. The fowl is naturally immune to anthrax, but on exposure to low temperature contracts the disease and dies.—H. J. Parish, Inherited Immunity, *British Medical Journal*, May, 1951.

INFECTION IN CHRONIC CHOLECYSTITIS

REVIEW OF TWO HUNDRED FIFTY-NINE OPERATIVE CASES WITH PREOPERATIVE AND POSTOPERATIVE DUODENAL DRAINAGE STUDIES

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and
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The diagnosis of biliary tract infection by nonoperative means remains a practical clinical problem, notwithstanding improvements in diagnostic procedures. The fact that the duodenum is normally sterile and that bacteria of the biliary tract can be obtained with a duodenal tube has been known for many years.[1] Duodenal cultures consistent with those found in the biliary tract at operation can be obtained with an encapsulated duodenal tube.[2] Duodenal cultures, however, are influenced by the presence of free hydrochloric acid in the gastric contents because the free acid apparently has an inhibiting effect on the growth of bacteria in the stomach, duodenum and bile.[3]

Cultures of the liver may be positive for pathogenic organisms in the normal person because some bacteria transmitted by the blood stream to the liver to be destroyed may survive. These are excreted into the bile ducts. There, however, they rarely produce pathologic changes or symptoms, except in the presence of obstruction.[4] The reported incidence of biliary tract infections (as shown by cultures taken at operation) varies considerably.[5]

During recent years most investigators report the gallbladder to be sterile in about two-thirds of all types of cholecystitis.[6] The bacteria most commonly found are the Escherichia coli and Salmonella typhosa, and at times various streptococci, staphylococci and other types of organisms.[7] In the absence of pathogenic organisms, changes of an inflammatory nature have been found in the biliary tract. Alvarez [6g] and Rehfuss [5e] believe that infections occur intermittently, and that cultures taken in an inactive period are sterile. These pathologic changes, however, may be the result of mechanical or chemical irritations, such as those thought to be due to an excessive concentration of bile,[8] or the presence of activated pancreatic ferments.[9] Allergic reactions may result in similar inflammatory changes.[5e]

The progressive character of pathologic changes secondary to the biliary tract infection that begins in the gallbladder and extends to the bile ducts and liver has been stressed by Russell, Carter, and Oppenheim [10] and many others.[11] An excellent review of the known facts is given by Hobson and Rice-Oxley,[5c] who stress the need of early recognition of the preliminary stages of the generalized biliary tract disease, which they term "cholangiohepatitis." Early cholecystectomy, when done before the infection extends beyond the gallbladder, will in most cases effect a cure. Delayed operation, on the other hand, is more difficult, is accompanied by a higher morbidity and mortality and has considerably less chance of a complete cure. These authors make the following statement:

> The only indubitable evidence of cholangiohepatitis is in the isolation of E. coli or other organisms, either at the time of operation or by duodenal aspiration, before or after operation. Duodenal intubation is an invaluable aid in diagnosis and moreover can provide evidence of the success or failure of surgical or bacteriologic therapy.

The present investigation deals with the incidence of biliary tract infection as determined by operative cultures, and with cultures of duodenal bile obtained before and after cholecystectomy, as well as with the concomitant pathologic changes of the biliary tract found at operation. The material presented is from a series of 259 patients with chronic cholecystitis operated on in the combined medical and surgical biliary tract clinic of University Hospital during the past 20 years. An effort has been made to determine the role of bacterial infec-

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Dr. James E. Ziegler, Jr., and his associates in the Department of Microbiology assisted substantially in the preparation of this report.

From the Departments of Medicine and Surgery, Post-Graduate Medical School of the New York University-Bellevue Medical Center and University Hospital.

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tion in the production of stones and other pathologic conditions. The preoperative diagnostic work-up in 156 cases included a duodenal drainage with cultures of duodenal bile; similar duodenal drainages were done for 113 patients after cholecystectomy.

The purpose of the duodenal drainage studies was (1) to ascertain the accuracy with which bacterial infection of the biliary tract could be determined preoperatively with methods now in use; (2) to demonstrate significant changes in the flora of the duodenal bile that might occur as the result of cholecystectomy. These drainages were done with the Twiss duodenal tube,[12] with the sterile precautions of a modified Lyon technic described elsewhere.[1g]

The accuracy of the bacteriologic findings in this series of patients may be compared with a series of 120 operative patients previously reported by Twiss, Carter and Hotz,[2e] in which the preoperative duodenal drainages were performed with a Twiss duodenal tube with the bucket covered by a keratin-coated capsule. In this series 75 patients were found to have all specimens of duodenal bile sterile preoperatively. Seventy-four of this group were sterile in all parts of the biliary tract at operation. Of 28 patients having one or two pathogenic types of organisms preoperatively, 25 showed the same types in the specimens obtained at operation.

DIAGNOSTIC INVESTIGATION

In this investigation those patients with negative cultures at operation were classified as sterile. Those having one or more positive cultures at operation were included in the infected group. A cholecystogram of practically all patients not having jaundice was obtained. For those having duodenal drainages, the free hydrochloric acid, the presence or absence of concentrated gallbladder bile, and the results of cultures of bile taken under sterile precautions were recorded. "D" specimens were duodenal bile obtained before stimulation, "M" and "O" were specimens of bile obtained after the installation of magnesium sulfate and olive oil. The results presented are those of the departments of roentgenology, pathology and bacteriology.

STATISTICAL ANALYSIS

Of the 259 patients, there were 203 women and 56 men. All operative cultures were sterile in 186, or 72%, of the patients; pathogenic organisms were found in 28%. The average age of the infected group was 47 years, that of the sterile group 2.5 years less.

The average duration of symptoms was 42 months in the infected group and 56 months in the sterile group. The presence of infection did not seem to alter the character or severity of symptoms, since each group had a similar incidence of pain, nausea and vomiting, loss of weight, and chills and fever. Jaundice, however, occurred in 24% of the infected group and in 6% of the sterile group. One apparent reason for this was the more advanced pathology in the infected group. Cholelithiasis was found in 83% of the patients in both groups.

The incidence of tenderness and enlargement of the liver was the same in both the sterile and infected groups, while anemia and loss of weight were more common in the infected group. Fever was an infrequent complaint. Symptoms apparently resulted from factors such as stones and obstruction rather than infection.

A review of the cholecystograms of 196 patients showed similar findings in the sterile and infected groups. Normal visualization was reported in 24% of each group, with delayed emptying in 10% of each. Impaired or absent visualization was reported in 76% of each group. No visualization, however, was reported in 30% of the infected patients and in only 17% of the sterile patients. These findings suggest a higher incidence of cystic duct obstruction in the infected group. In a detailed review of the cholecystograms of 156 patients, there were 18, or 11%, yielding normal visualization without evidence of stones. Stones were visualized in 124. There was normal visualization of the gallbladder in 50 and faint or no visualization in 74.

OPERATIVE FINDINGS

The relative proportion of sterile and positive bacteriologic findings at operation are shown in Table 1. All parts of the biliary tract were sterile in 186 of the 259 patients; the total number of sterile cultures of each specimen is shown; some part of the biliary tract was found to harbor pathogenic organisms in 73, or 28%. (The proportion of pathogenic cultures of the gallbladder bile was 22%, the gallbladder wall 25%, gallstones 17%.) Gallstones were present in 83% of both groups. The statistics do not suggest that stones could be considered either a primary cause or effect of infection.

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EFFECT OF INFECTION

An analysis of the operative and pathologic diagnoses of the 259 patients showed that subacute cholecystitis was reported only in the sterile group, with one exception. Pericholecystitis was found in both groups (Table 2).

TABLE 1.—*Sterile and Infected Bacteriologic Findings at Operation Among 259 Patients*

	Patients with Sterile Cultures	Patients with Infected Cultures	Patients Infected, %
Conditions yielding cultures	186	73	28
Gallbladder bile	174	64	22
Gallbladder wall	171	57	25
Gallstones	125	25	17
Common duct bile	30	18	37
Cystic duct node	31	13	30

Complications involving the liver and spleen occurred with about the same frequency in both groups. The only organ that showed an increased morbidity in the infected group was the pancreas. Ten cases of acute and chronic pancreatitis were found in the infected group, with only five cases of chronic pancreatitis in the larger sterile group. Duodenal ulcer and periduodenitis were found only in the sterile group.

PATHOLOGIC FINDINGS

A brief summary of significant findings reported by the pathologist on gross and microscopic examinations of the removed gallbladders is shown in Table 3. The incidence of practically all findings is similar in both groups. Cholesterosis of the gallbladder occurred more frequently in the sterile group; necrosis, more frequently in the infected group. The low incidence of polymorphonuclear infiltration in both groups is worthy of note.

FINDINGS IN PATIENTS STERILE AT OPERATION

Preoperative Duodenal Drainage Findings.—The results of the preoperative duodenal drainages of 100 patients sterile in all parts of the biliary tract at operation

TABLE 2.—*Associated Conditions Indicated by Operative and Pathologic Diagnoses*

	Sterile	Infected
Associated Conditions	186	73
Cholecystitis, chronic	171 (92%)	70 (96%)
Cholecystitis, subacute	8	1
Pericholecystitis	11 (10%)	2 (4%)
Pancreatitis, chronic	5	6
Pancreatitis, acute	0 (2%)	4 (13%)
Hepatitis	16	3
Cirrhosis of the liver	3 (9%)	2 (7%)
Splenomegaly	5	0
Appendicitis, chronic	85 (46%)	36 (50%)
Appendicitis, acute	1	1
Duodenal ulcer	5	0
Periduodenitis	1	0

are shown in Table 4. The findings are recorded on the basis of the presence or absence of free hydrochloric acid in the gastric contents. In the presence of free hydrochloric acid, 73% of the patients had all sterile cultures; with no acid, only 46% were sterile. When drainages with one or two sterile specimens of duodenal bile were added to those having all sterile specimens, 85% of those with acid showed sterile cultures, while only 61% of those without acid were sterile.

The types of organisms found where part of the cultures were sterile are shown in Table 5. Mixed growths or nonpathogenic types of organisms predominated. Significantly enough all positive cultures of bile occurred in the "D" or "M" specimens; the final or "O" specimens were all sterile. Contaminations seemed less prevalent in the final specimens of duodenal bile. The organisms found when all cultures of duodenal bile were positive are also shown in Table 5. The proportion of these apparently contaminated drainages was 16% in the presence of free hydrochloric acid and 36% in its absence. In the achlorhydria group, mixed growths of organisms again predominated. These findings clearly indicate the relation of the absence of free hydrochloric acid in the stomach and pathogenic organisms in the duodenum. A mixed growth of organisms in the duodenal bile suggests gastric or duodenal contamination, especially if the positive cultures occur only in the "D" or "M" specimens.

Postoperative Findings in Patients with Sterile Preoperative Cultures.—Sterile postoperative duodenal drainages were done over a period of four years in 50

TABLE 3.—*Significant Findings in Examinations of Removed Gallbladders*

	Sterile 186	Infected 73
Gross examination		
Hemorrhage	9	2
Cholesterosis	13 (7%)	1 (1%)
Phrygian cap	1	0
Microscopic examination		
Fibrosis	80 (43%)	28 (38%)
Infiltration		
Lymphocytes	59 (32%)	23 (31%)
Polymorphonuclear cells	7 (4%)	4 (5%)
Mononuclear cells	13	4
Eosinophils	5	2
Collagen degeneration	4	3
Necrosis	2 (1%)	3 (4%)
Giant cells	1	0
Calcification	1	0

patients having all preoperative and operative specimens sterile. Of the 30 having no free acid postoperatively, 27 had drainage during the first year. Twenty-two of the 27 drainages showed sterile specimens, and five had only positive cultures. The types of bacteria found then and during the subsequent years were mixed cultures, E. coli and nonhemolytic streptococci. Of the 20 patients having free acid, only one had a positive postoperative bile culture of Staphylococcus aureus. Apparently a sterile biliary tract will remain sterile in the presence of free hydrochloric acid. With no free acid, however, positive cultures are far more prevalent. These findings may be attributed to an increased incidence of contamination from the stomach or intestines, an intermittent discharge of bacteria from the biliary tract, or a cholangitis which developed after the cholecystectomy.

Postoperative Findings in Patients with Positive Preoperative Cultures.—A postoperative study of duodenal drainage bile was made of 23 patients sterile at operation, in whom pathogenic organisms were found in the duodenal bile preoperatively, to determine whether the same types of organisms were present after cholecystectomy.

Of six patients with free acid, three with preoperative cultures of E. coli showed E. coli in each case after one,

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three and 11 years. Of the remaining three patients, one had preoperatively a nonhemolytic Streptococcus and postoperatively a mixed growth of organisms during the first and second years. Of the remaining two, one had before operation a K. pneumoniae (Friedländer's bacillus) and one a Staph. albus; each was sterile postoperatively over a period of three years. These findings suggest a transient intermittent discharge of bacteria in the duodenal bile, as opposed to the chronic infection with positive cultures at operation.

In the 17 patients having no free acid, 10 had preoperatively a mixed growth of bacteria. Of these, nine had duodenal drainages during the first postoperative year; six had persistent mixed growths, three had a persistent single type of organism. During the second postoperative year, four of this group of 10 had duodenal drainages; there were two mixed growths, and two had a single type of organism. During the third and fourth years, three patients had drainages and each showed a mixed growth of organisms. Of four patients having E. coli preoperatively, all showed postoperatively E. coli or coli with other types of organisms over a period of three years. Sterile cultures were obtained postoperatively in only two of the 17 patients with no free hydrochloric acid. In each of these the preoperative organism was K. pneumoniae (Friedländer's bacillus). Here again, the

TABLE 4.—*Sterile Duodenal Drainage Culture Findings in 100 Preoperative Patients*

Number of Drainages		All Sterile Specimens	One or Two Sterile Specimens
In patients with free HCl.....	48	35 (73%)	6
In patients without free HCl.....	52	24 (46%)	8
Total	100	59	14

consistent preoperative and postoperative findings indicated an intermittent discharge of the same types of organisms into the duodenum.

FINDINGS IN PATIENTS WITH POSITIVE CULTURES AT OPERATION

Operative Findings.—Table 6 summarizes the bacteriologic culture reports of the specimens obtained at operation in the 83 patients of the infected group, in each of whom there was at least one positive culture of a pathogenic organism. A number of cultures from the biliary tract were sterile. The most prevalent organism found was E. coli. Other organisms found in significant numbers included nonhemolytic Streptococcus, S. typhosa, and alpha (green) hemolytic Streptococcus, and Clostridium perfringens (Welch's bacillus). It is of interest to note that in this infected group, 21 of the 52 stones cultured were sterile. Cultures of the common duct bile were positive in 24 of the 25 specimens examined, while the cystic duct node cultures were positive in 17 of 18 specimens. It would seem that infections of the gallbladder involve the common duct and cystic duct node more frequently than the contained stones.

Preoperative Culture.—A study was made of the preoperative duodenal drainages in 49 patients having positive cultures of the biliary tract at operation. Of the 34 patients in this group having no free acid, 28 had at operation a single type of organism, six had more than one type (Table 7). In the preoperative duodenal drainages 14 of the 28 had only the same type of organism, while five had the same with an additional type. Preoperatively, seven patients had types of organisms different from those found at operation, while two were

TABLE 5.—*Organisms Found in Preoperative Duodenal Drainages*

Organism	Number in Patients With Free HCl	Number in Patients Without Free HCl
Sterile "O" Bile with Positive "D" or "M" Specimens		
Mixed growth	3	6
Micrococcus catarrhalis	1	0
Nonhemolytic Streptococcus	1	0
Klebsiella pneumoniae	1	1
Staphylococcus albus	0	1
Total	6 (12%)	8 (15%)
No Sterile Cultures		
Mixed growth	3	14
Nonhemolytic Streptococcus	2	0
Streptococcus viridans	1	0
Staphylococcus albus	1	0
Gram-negative rods	1	0
Escherichia coli	0	4
Gram-positive cocci	0	1
Total	8 (16%)	19 (39%)

sterile. Of the six patients having more than one type of organism at operation, all had at least one of these types in the preoperative duodenal drainage bile.

The bacteriologic findings in the 15 patients having free acid are also shown in Table 7. Of the 15, nine showed the same type of organism in the duodenal drainage bile as that found at operation. The duodenal bile was sterile in four patients and in two a type of organism different from that in the biliary tract at the time of operation was shown. In summary, 43, or 87%, of the

TABLE 6.—*Types of Organisms in Operative Specimens of 73 Patients with Pathogenic Organisms in the Biliary Tract*

	Total	Sterile	Escherichia coli	Salmonella typhosa	Nonhemolytic Streptococcus	2 Types of Organisms	Alpha Hemolytic Streptococcus	Clostridium perfringens	Proteus vulgaris	Staphylococcus albus	Gram-negative rods	Alcaligenes faecalis	Staphylococcus aureus
Gallbladder Bile.....	88	16	26	6	9	5	4	3	1	1	1	0	11
Wall.....	69	18	20	7	3	5	6	3	3	1	1	1	1
Stones....	52	21	13	4	3	3	3	2	1	1	1	0	0
Common duct bile.....	25	1	11	2	3	4	2	1	1	0	..	..	..
Cystic duct node.....	18	1	6	1	..	3	2	..	2	2	..	1	..

patients showed pathogenic types of organisms in the duodenal drainage bile. All patients having sterile preoperative cultures of duodenal bile had sterile cultures of gallbladder bile at operation.

Postoperative Cultures.—In 40 patients having positive cultures of the biliary tract at operation, the effect of cholecystectomy upon the bacteriology of the duodenal bile was studied by repeated duodenal drainages over a period of 10 years.

Of the various types of infection, only in S. typhosa was there a tendency for the duodenal bile to become sterile, regardless of the presence or absence of free acid. Of 11 typhoid carriers (seven with free acid and four without acid), nine had sterile cultures of duodenal bile within a year; in one the bile became sterile later.

In the remaining 29 patients, 18 without free acid showed persistently positive cultures of duodenal bile in most instances. In this group, of the six having E. coli at operation, the duodenal bile became sterile in three, and in three the E. coli was retained, two of these having an additional type of organism.

Of the 11 patients with free acid, five who had single types of E. coli or nonhemolytic streptococci at operation had sterile duodenal bile. The remaining six had two types of organisms at operation. All these patients continued to have positive cultures of the same or similar types in the duodenal bile.

TABLE 7.—*A Comparison of the Operative and Preoperative Cultures in 49 Patients Divided Into Groups Having Free Acid and No Free Acid*

Operative Culture			Preoperative Duodenal Drainage Cultures							
			No. of Patients							
No. of Patients			Same		Same plus Different Type		Different		Sterile	
Free	HCl*	Type of Organism	0	+	0	+	0	+	0	+
0	+	Type of Organism	0	+	0	+	0	+	0	+
12	6	Escherichia coli	8	3	3	1	1	1	0	1
6	1	Salmonella typhosa	6	1	..	..	..	..	..	..
5	2	Nonhemolytic Streptococcus	..	..	2	..	2	..	1	2
1	..	Streptococcus viridans	..	..	..	..	..	..	1	..
1	..	Staphylococcus aureus	..	..	..	..	1	..	..	..
1	1	Proteus vulgaris	..	..	..	..	1	1	..	..
1	..	Staphylococcus albus	..	..	..	..	1	..	..	..
1	..	Gram-positive rods	..	..	..	..	1	..	..	..
..	1	Gram-positive cocci and Candida albicans	..	1	..	..	..	..	..	..
..	1	Alcaligenes faecalis	..	..	..	..	..	..	..	1
28	12		14	5	5	1	7	2	2	4
Patients Having Single Type of Organism at Operation										
Operative							Preoperative			
2	1	Escherichia coli with nonhemolytic Streptococcus	2	1	..		(Escherichia coli only)			
1	..	Aerobacter aerogenes	..	..	1		Aerobacter aerogenes			
..	..	Alcaligenes faecalis	..	..	..		Nonhemolytic Streptococcus			
2	2	Nonhemolytic Streptococcus	2	1	..		1 (One nonhemolytic Streptococcus only)			
..	..	Alpha hemolytic Streptococcus	..	..	..	..	..	..	..	..
1	..	Mixed growth	1	..	..	..	..	..	..	..
34	15		19	7	6	2	7	2	2	4
Patients Having More Than One Type of Organism at Operation										

* 0 equals absence of free HCl, + equals presence of free HCl.

COMMENT

The role of infection in chronic cholecystitis is of fundamental importance in that a chronic infection apparently becomes permanent once it has extended beyond the gallbladder and becomes established in the walls of the bile ducts. While the majority of patients coming to operation do not show evidence of active infection, the presence of such an infection frequently constitutes a serious problem even after operation.

The recognition of such a condition before involvement of the bile ducts and liver is obviously to the best interest of the patient, surgeon and internist. Active infection of the biliary tract can be determined reliably by cultures of duodenal bile taken under sterile precautions provided there is good drainage technic and accurate laboratory work.

At operation, the majority of organisms found are in the colon-typhoid and streptococci groups. In most cases the presence of these bacteria in the duodenal bile (as shown by comparative studies of the preoperative and operative cultures in this series) constitutes dependable evidence of biliary tract infection.

However, the presence of organisms in the duodenal bile, other than those of the above-stated groups, cannot always be considered of diagnostic value, particularly if several types are present, or if there is no free hydrochloric acid in the gastric contents. The accuracy of the cultures of duodenal bile should be questioned if they are not consistent with the history, physical findings and cholecystographic findings.

The procedure of duodenal drainage has lent itself particularly well to the investigation of patients with a residual typhoid infection of the gallbladder, in whom the diagnosis of the typhoid carrier state by duodenal bile cultures and its elimination by cholecystectomy have been in most cases successful.[13] The elimination of the more prevalent colon carrier state is decidedly less satisfactory. The cause of the unsatisfactory results in many of these patients is that the nature of the infection has not been recognized until after it has spread beyond the gallbladder and become "seeded" in the bile ducts, after which cholecystectomy is unsuccessful in clearing up the condition. The earlier recognition of active biliary tract infection by means of duodenal drainage cultures should lower the incidence of delayed cholecystectomy, which in these cases results in a persistent chronic infection of the bile ducts, with increased operative mortality and increased morbidity.

SUMMARY AND CONCLUSIONS

1. A study has been made of 259 patients with chronic cholecystitis coming to operation. Preoperative and postoperative cultures of the duodenal bile were obtained, as well as cultures from all parts of the biliary tract at operation. Operative cultures were positive in 73, or 28%, of the patients, and were sterile in all parts of the biliary tract in 186, or 72% of the patients.

2. The sterile and infected groups had a similar incidence of symptoms and abnormal physical findings, as well as the same percentages of abnormal cholecystograms.

3. Gross and microscopic pathologic examinations showed no significant differences in the sterile and infected groups.

4. In the group of 186 patients sterile in all parts of the biliary tract at operation, the results of preoperative duodenal drainages in 100 patients gave one or more sterile cultures in 85% of those with free hydrochloric acid and in 61% of those having no free acid. Fifty patients with sterile preoperative cultures, practically all having free acid, remained sterile postoperatively. Of 32 patients having no free hydrochloric acid, 10 showed only postoperative positive cultures of duodenal bile.

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5. In the group of 73 patients with pathogenic organisms in the biliary tract at operation, the predominating organisms were Escherichia coli, Salmonella typhosa, nonhemolytic Streptococcus, alpha hemolytic Streptococcus (green), Klebsiella pneumoniae (Friedländer's bacillus), and Proteus vulgaris. Stones were positive in 31 of 52 cases, the common duct bile and cystic node cultures were positive in all but one case each. Eighty-seven percent of 73 preoperative duodenal drainages showed pathogenic organisms. The six patients having sterile preoperative cultures had sterile gallbladder bile at operation. Postoperative drainages showed sterile cultures of duodenal bile in 10 out of 11 typhoid carriers and in all patients having free acid with pure colon or Streptococcus infections. In the majority of the patients having no free acid and in those having acid with mixed cultures at operation, the duodenal bile remained positive.

6. In both the sterile and the infected groups, there were the same incidence and type of pathologic changes and stones, suggesting that infection was superimposed upon previously existing pathologic conditions.

7. The presence of active infection, however, makes the condition of the patient far more serious. Infectious cholecystitis can be cured only if treated in the early stages by cholecystectomy.

8. The early recognition of biliary tract infection is for the most part dependent upon the demonstration of pathogenic organisms in the duodenal bile. With suitable sterile precautions this can be done accurately in the majority of patients.

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VISUAL SYMPTOMS AFTER DIGITOXIN THERAPY

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The demonstration by Travell and Gold [1] that digitoxin is almost completely absorbed from the gastrointestinal tract in man has led to an ever-increasing popularity in the use of this digitalis glycoside. Many physicians are now employing digitoxin ("digitaline Nativelle," purodigin®, and crystodigin) in preference to digitalis leaf in congestive failure and arrhythmias requiring digitalis therapy. Although Gold and his co-workers [2] have emphasized that the full oral digitalizing dose of 1.2 mg. and the maintenance dose of 0.2 mg. can be given with safety, several reports of digitoxin toxicity have recently appeared in the literature.[3]

Ocular symptoms associated with digitalis poisoning have long been known to the medical profession. Recently, eye symptoms have also been described resulting from the ingestion of digitoxin, but these were associated with more serious cardiac abnormalities. The following four cases illustrate visual disorders arising shortly after digitoxin therapy with no other evidence of toxicity.

REPORT OF CASES

CASE 1.—S. O., a 69-yr.-old white man, complained of cough, dyspnea on exertion, and slight ankle edema of five days' duration when seen on Jan. 5, 1949. The past history disclosed that he had sustained two attacks of coronary occlusion, in 1936 and 1942. He recovered completely and was able to perform his work, dress cutting, until this present episode.

Physical examination at this time revealed dyspnea and orthopnea but no cyanosis. The weight was 187 lb. (84.8 kg.). The heart was markedly enlarged to the left on percussion and the apical impulse was palpable in the sixth interspace at the anterior axillary line. A systolic murmur was heard at the apex and base, and the second aortic sound was accentuated. The rhythm was regular and the blood pressure was 120/80. There were many moist rales at both bases of the lungs. The liver was enlarged three fingerbreadths below the costal margin and there was 1 + pretibial edema. The electrocardiogram was interpreted as showing an old anterior wall infarct, left axis deviation and a transverse heart. There was no history of digitalis therapy; therefore, 0.4 mg. of "digitaline Nativelle" was given at once, followed by 0.4 mg. every six hours until a total of 1.2 mg. was reached. Thereafter, a daily maintenance dose of 0.2 mg. was employed. In addition, bed rest and a salt-free diet were prescribed. Two weeks later the patient complained of slight blurring of vision. He stated that he saw bright flickering lights, and that objects were covered with snow when he was outdoors in the daylight. He was referred to an ophthalmologist, who, after a complete examination failed to discover any abnormal findings. It was suggested that the digitoxin was responsible for the ocular disturbances. An electrocardiogram at this time indicated depression of the ST segment and inverted T waves in leads 2 and 3. No rhythm or conduction abnormalities were noted. Cessation of digitoxin for several days succeeded in clearing these symptoms. "Digitaline Nativelle" was then readministered in a 0.1 mg. daily dose with no ill effects.

CASE 2.—M. B., a 70-yr.-old white man with hypertensive and arteriosclerotic heart disease and emphysema, had been on digitalis leaf therapy for several years with no untoward effects. On Feb. 7, 1949, he complained of marked dyspnea, orthopnea, cough and swelling of the ankles. He had not taken digitalis for six months.

On physical examination the heart was enlarged to the left on percussion. There was a systolic murmur at the base, and the second aortic sound was greater than the second pulmonic sound. The rhythm was regular and the blood pressure was 170/110. The lungs were hyper-resonant to percussion and numerous rhonchi, wheezing and sonorous rales were heard throughout both lung fields. The liver was felt four fingerbreadths below the costal margin, and there was 2 + pretibial edema. The weight was 202 lb. (91.6 kg.). The electrocardiogram demonstrated right axis deviation with a pattern suggestive of right ventricular hypertrophy. The patient was given 1 cc. of meralluride injection (mercuhydrin®) subcutaneously, and 1.2 mg. of purodigen® was prescribed in three divided doses of 0.4 mg. every six hours, followed by a maintenance dose of 0.2 mg.

From Manhattan General Hospital.

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daily. Ten days later, when the patient was seen again, marked improvement of the congestive failure was noted. On careful questioning, however, he complained that he had white spots before his eyes and blurring of vision, and that objects were covered with snow when he was outdoors in the daylight. In addition, there were loss of appetite and nausea but no vomiting. Digitoxin intoxication was suspected immediately and the drug was stopped. An electrocardiogram at this time revealed depression of the ST segment and inversion of the T waves in leads 1, 2, and 3. Several days later, 0.1 mg. of purodigen* was readministered without return of the above symptoms. On several occasions when the dose was increased spots before the eyes reappeared.

CASE 3.—Mrs. B. S., a 72-yr.-old white woman, was admitted to Manhattan General Hospital on Nov. 15, 1949, with a diagnosis of hypertensive and arteriosclerotic heart disease in marked congestive failure. She had omitted taking digitalis for several months. Her weight was 178 lb. (80.7 kg.). On admission, 1.2 mg. of "digitaline Nativelle" was administered at once, followed by a maintenance dose of 0.2 mg. daily. In addition, oxygen, a salt-free diet, and meralluride injection every other day were given. Six days later the patient complained of blurred vision and yellow spots before her eyes. An electrocardiogram taken at this time did not reveal any changes from those noted on admission and was interpreted as indicative of left ventricular strain. Immediately, digitoxin was stopped and four days later these visual symptoms disappeared. A dose of 0.1 mg. daily was reinstituted and well tolerated.

CASE 4.—Mrs. M. F., a 78-yr.-old white woman, was admitted to the Manhattan General Hospital on May 15, 1950, in marked congestive failure.

Physical examination revealed marked cyanosis, dyspnea and orthopnea. There was distention of the vessels of the neck. Cardiac dullness was markedly enlarged to the left on percussion. The rate was rapid and the rhythm was regular. There was a rough musical systolic murmur over the entire precordium, and the second pulmonic sound was accentuated. The blood pressure was 210/130. There were many rhonchi, wheezes, and numerous sibilant and moist rales throughout both lung fields. The liver was palpable at the level of the umbilicus and was extremely tender. The extremities revealed 3 + edema. The weight was 210 lb. (95.2 kg.). An electrocardiogram, taken on May 16, 1950, revealed left bundle-branch block. Since there was no history of any recent digitalis therapy, 1.2 mg. of "digitaline Nativelle" was given at once, followed by 0.2 mg. daily. In addition, aminophylline and the Karell diet were prescribed. Four days later, on careful questioning, the patient complained of loss of appetite, nausea, blurred vision, yellow vision, and scotoma. An electrocardiogram at this time did not indicate any cardiac abnormalities other than those noted on admission. Cessation of the digitoxin for five days resulted in clearing of the above symptoms. A subsequent dose of 0.1 mg. daily was then given with no untoward effects.

COMMENT

Congestive heart failure, regardless of its etiology, is the primary indication for digitalis therapy. Inasmuch as in all the cases presented the patients were in failure, there can be no question as to the need for the use of a digitalis compound. The dosage of 1.2 mg., either as an initial digitalizing dose or in divided doses given every six hours, is in accord with schedule suggested by Gold and others.[2] This cannot be considered an excessive amount since all the patients weighed more than 70 kg. The daily maintenance dose of 0.2 mg. is somewhat controversial. Although Gold and his associates recommended a daily maintenance dose of 0.2 mg., they felt that this was the average dose and it did not apply to all cases. Batterman and DeGraff [4] stated that a daily maintenance dose of 0.2 mg. carried with it a higher incidence of toxicity than a 0.1 mg. daily quota; hence, they recommended the latter. It is possible that the higher maintenance dose employed in this group of patients may have been responsible for the toxic symptoms, since digitoxin is known to have a cumulative effect.

Ophthalmic complaints resulting from digitalis intoxication were noted as early as 1785, when Withering, in his classic paper on the foxglove, stated that when given in large doses it might result in "confused vision—objects appearing green or yellow." In 1925, Sprague, White and Kellogg,[5] in an exhaustive review of the subject, found few references in the English literature, but many reports in German and French. They described seven of their own cases and concluded that the character of the visual disturbance was related to the individual susceptibility of the patient and the dosage of the drug. Since then physicians have become alerted to this phenomenon. Not infrequently ophthalmologists are the first to see patients with visual complaints while under treatment with digitalis. Thus Carroll,[6] Langdon and Mulberger,[7] and Gillette [8] reported several patients with eye symptoms resulting from the ingestion of digitalis. In their cases the visual acuity, visual fields and fundi were completely normal. However, Wagener, Smith and Nickeson [9] described a case of blurred vision and retrobulbar neuritis with bilateral central scotomatous defects in the field of vision after digitalis therapy.

A variety of ocular abnormalities have been described associated with digitalis poisoning.[10] Blurring of vision, white vision, and disturbances in color vision, so that objects appear yellow, green, blue and red, are the most common. The effect is often increased by going out into the sunlight, although some have stated that artificial light also produces the colored vision. Cases have been recorded in which the surroundings were said to have appeared covered with snow or hoary frost. Dimness of vision with inability to distinguish objects or people, inability to focus the eyes and to read even the largest print have occasionally been mentioned. Many forms of light sensation and scotoma have also been described. These have ranged from flickering before the eyes to flashes of light, rapidly moving sparks and spots of various colors surrounded by coronas and banded figures. Rarely, diplopia and temporary as well as permanent amblyopia have been reported. Among the objective findings noted with the above symptoms were mild conjunctivitis, pupillary variations, exophthalmus, retrobulbar neuritis and possible nystagmus. Although no satisfactory explanation for these manifestations is available as yet, most investigators believe that they are due to a toxic action of digitalis on the central nervous system.

4. Batterman, R. C., and DeGraff, A. C.: A Comparative Study on the Use of the Purified Digitalis Glycosides: Digoxin, Digitoxin and Lanatoside C for the Management of Ambulatory Patients with Congestive Failure, Am. Heart J. **34**: 663, 1947.

5. Sprague, H. B.; White, P. D., and Kellogg, J. F.: Disturbances of Vision Due to Digitalis, J. A. M. A. **85**: 716 (Sept. 5) 1925.

6. Carroll, F. D.: Visual Symptoms Caused by Digitalis, Am. J. Ophth. **28**: 373, 1945.

7. Langdon, H. M., and Mulberger, R. D.: Visual Disturbances After Ingestion of Digitalis, Am. J. Ophth. **28**: 639, 1945.

8. Gillette, D. F.: Visual Disturbances Due to Digitalis, Tr. Am. Ophth. Soc. **44**: 156, 1946.

9. Wagener, H. P.; Smith, H. L., and Nickeson, R. W.: Retrobulbar Neuritis and Complete Heart Block Caused by Digitalis Poisoning, Arch. Ophth. **36**: 478 (Oct.) 1946.

10. Sprague, White and Kellogg.[5] Willius, F. A.: Digitalis Intoxication, Mod. Concepts of Cardiovas. Dis. **14**: 12 (Dec.) 1945.

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Blurred vision, white and yellow vision, scotoma, the appearance of bright flickering lights and the appearance of snow covering objects outdoors were the visual disturbances observed in these patients following the ingestion of "digitaline Nativelle" and purodigen*. They were no different from those described as a result of digitalis toxicity. This is not surprising, since there is sufficient experimental evidence to indicate that the only fraction of digitalis that is absorbed is the digitoxin or digitoxin-like material. Batterman and DeGraff,[4] and Gold,[11] as well as others, have shown that the toxic manifestations of the purified glycosides are generally the same as those of digitalis leaf. Master [3a] observed that the symptoms in his cases of digitoxin poisoning were no different from those described as a result of poisoning with other types of digitalis. The eye symptoms in this group of patients developed early in the course of digitoxin therapy, and cleared several days after the drug was withdrawn. Subsequently, the readministration of smaller doses produced no ill effects on the eyes, thus precluding a hypersensitivity factor.

The slight nausea and loss of appetite in Cases 2 and 4 may have been due either to the congestive failure per se or possibly to digitoxin overdosage. The depression of the ST segments and inverted T waves noted in the electrocardiograms of Cases 1 and 2 at about the same time that the visual disturbances appeared cannot, by themselves, be considered as evidence of digitoxin toxicity. They are an indication of the physiologic effect of digitoxin on the cardiac musculature. In none of the patients were rhythm or conduction abnormalities detected either clinically or electrocardiographically concurrent with the eye symptoms. This is somewhat different from the observation of others. Most of the recent reports relative to digitoxin intoxication have emphasized the serious disturbance of the cardiac mechanism. Visual disturbances have been mentioned, but always in association with cardiac disorders and other systemic involvement.

It is thus apparent from the cases presented here that ocular aberrations can occur soon after the ingestion of digitoxin and, when present, indicate early toxicity. It is probable that the prompt recognition of these visual disturbances may obviate more serious cardiac sequelae. Therefore, it is important to question patients early in the course of digitoxin therapy as to whether they have had any visual disturbances.

SUMMARY

Four patients in congestive failure were treated with digitoxin ("digitaline Nativelle" and purodigen*) orally.

A full digitalizing dose of 1.2 mg. and a maintenance dose of 0.2 mg. was employed.

Blurring of vision, white and yellow vision, scotoma, bright flickering lights and objects covered with snow, outdoors only, were the visual symptoms of toxicity noted in the patients.

The visual complaints developed early in the course of digitoxin therapy, from the fourth to the 12th day.

Cessation of administration of the drug for several days cleared the ocular disturbances, and the reintroduction of a smaller maintenance dose produced no ill effects on the vision.

No disturbances of the cardiac mechanism were noted in this group of patients with digitoxin toxicity.

It is suggested that patients on digitoxin therapy should be observed for visual symptoms.

60 Gramercy Park.

CLINICAL NOTES

INCOMPATIBILITY OF LUMBAR BLOCK AND ANTICOAGULANT THERAPY

Frank Cole, M.D.
and
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Temporary paralysis of the lumbar sympathetic ganglions by means of a paravertebral injection of procaine hydrochloride is enjoying a well-earned measure of popularity both as a therapeutic test and as a means of treatment. Paravertebral blocks are commonly used to determine the degree of vasospasm in the legs and, thus, to discover how much relief can be expected from lumbar sympathectomy. Paravertebral block is almost a specific treatment for femoral thrombophlebitis (milk-leg).

It is important to note, however, that the indications for paravertebral sympathetic block often coincide with the indications for anticoagulant therapy. This is an important item to consider because, while the indications for use of paravertebral procaine injections may coincide with the indications for anticoagulant therapy, the simultaneous use of these procedures is fraught with great danger. In other words, paravertebral blocks should never be done in patients who are receiving anticoagulant therapy. This conflict in therapeutic agents has been noted by others, who have suggested that deep injections of any kind are best avoided in patients whose clotting mechanism is impaired.[1] The most dangerous deep injections are paravertebral and intraspinal, since both pass through vascular tissues and in either case subsequent hemorrhage may be a serious complication.

Perforation of a lumbar vein is an unavoidable and not infrequent occurrence in paravertebral injections. When the clotting mechanism is intact, such a needle puncture will produce little harm, since it will soon be sealed with a clot. When clot formation is impaired, continuous oozing may occur. The amount of blood extravasated into the retroperitoneal tissues may indeed

11. Gold, H.; Kwit, N. T., and Cattell, M.: Studies on Purified Digitalis Glycosides: Potency and Dosage of "Digitaline Nativelle" by Oral Administration in Man, J. Pharmacol. & Exper. Therap. **69**: 177, 1940. Gold, H.: Pharmacologic Basis of Cardiac Therapy (Alpha Kappa Lecture, abridged), J. A. M. A. **132**: 547 (Nov. 9) 1946.

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Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

1. Lilly, G. D., and Lee, R. M.: Complications of Anticoagulant Therapy, Surgery **26**: 957-969 (Dec.) 1949. O'Connor, W.; Preston, F. W., and Theis, F.: Retroperitoneal Hemorrhage Following Lumbar Sympathetic Block During Treatment with Dicumarol: Report of Fatality, Ann. Surg. **131**: 575-580 (April) 1950.

assume massive proportions without being suspected. A lower-abdominal mass, intestinal distention, ileus, fever, and falling erythrocyte count all may indicate a retroperitoneal hematoma. When this complication occurs, the clotting mechanism must be restored by administering vitamin K to combat bishydroxycoumarin (dicumarol®) poisoning and protamine to counteract heparin. Supportive blood transfusions are also indicated. Finally, operative drainage of the hematoma is desirable.

REPORT OF A CASE

R. B., a 54-yr.-old white man, sustained a fracture of the right lower leg in an automobile accident on April 4, 1950. The fractures were treated by means of pinning and a cast, and bishydroxycoumarin was administered from April 20 to May 2. He was discharged on convalescent furlough on May 14 and readmitted on June 21, when the cast was changed and the pins were removed. On June 29 a tender lymph node was palpable in the right inguinal region, and, later, evidence of thrombophlebitis was discovered. He was given 300 mg. of bishydroxycoumarin on July 10, 200 mg. on July 11, and 50 to 100 mg. daily thereafter, in order to maintain the prothrombin time approximately double that of the control. No difficulty was encountered until July 28, when attempts were made to ambulate the patient, and signs of vasospasm developed in the fractured leg. A lumbar sympathetic block was done on July 28, with very good symptomatic results, and it was, therefore, repeated on July 31. On Aug. 2 the patient became sick, and by Aug. 3 there was evidence of a mass in the right lower quadrant, an ileus with vomiting, and a leukocytosis of 24,700. The prothrombin time at this time was 33 sec., as compared with a control of 15 sec. A retroperitoneal hematoma was suspected, but, because of the high white cell count and the age of the patient, it was felt that an appendical abscess could not be excluded. Therefore, on Aug. 4, the symptoms having progressed, surgical exploration was felt to be indicated. A transverse incision was made in the right flank, and retroperitoneal exploration revealed the psoas muscle to be distended with blood, the blood having extravasated diffusely between the muscle fibers. Because of the danger of hemorrhage, exploration through this incision was discontinued, and a paramedian abdominal incision was made. The rectus muscle was retracted laterally, and the psoas muscle was approached transperitoneally. Careful examination of the muscle revealed no evidence of a bleeding vessel. The hemorrhage was diffuse; there was no clot formation, and a bleeding point could not be identified. A reasonable amount of blood was evacuated from the muscle by splitting the psoas fibers longitudinally. The contents of an ampule of topical thrombin were irrigated through the muscle fibers, and a gauze pack was placed into the defect in the muscle and brought out through the retroperitoneal incision. A Penrose drain was brought out through the abdominal incision. The wounds were closed in layers, and recovery from this operation was uneventful. No further evidence of bleeding developed in this man. The day after the operation he had an erythrocyte count of 3,590,000 and a leukocyte count of 12,200, with 11 gm. of hemoglobin. The prothrombin time at this time was still 35 sec., as compared with a normal of 15 sec., but by the next day it had fallen to 19 sec. The use of bishydroxycoumarin and heparin, was of course, discontinued.

COMMENT

A paravertebral procaine injection should not be considered to be a completely innocuous procedure. Although complications following this injection are exceedingly rare in normal patients, the deep injection of procaine in a hypocoagulatory patient may be followed by serious and undesirable effects. It is probably a good rule never to do any deep injections in a person who has had his clotting mechanism deranged.

In thrombophlebitis and phlebothrombosis the conflict between paravertebral block and anticoagulant therapy is easily resolved. Phlebothrombosis requires anticoagulant therapy and paravertebral block is contraindicated. Thrombophlebitis requires a lumbar block more urgently than anticoagulant therapy. The most awkward situation occurs in frostbite or impending arteriosclerotic gangrene when it would seem that both anticoagulants and lumbar blocks are indicated for maximum therapeutic effect. However, in the case of frostbile it is probably wiser to use one or the other and not to combine the two types of treatment. For arteriosclerosis the wisest course of action is lumbar sympathectomy followed by anticoagulant therapy in the postoperative period.

SUMMARY

The danger of doing a paravertebral lumbar sympathetic block in a patient receiving anticoagulant therapy is emphasized. The successful treatment of a psoas hematoma following such a procedure is described. The combination of anticoagulant therapy and lumbar sympathetic block is briefly discussed.

74th and J Sts.

ANGIONEUROTIC EDEMA DUE TO FOREIGN BODY LONG PRESENT IN THE NOSE

REPORT OF A CASE

Bunim Pruzanski, M.D., Tel-Aviv, Israel

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The following case report is considered of interest because an organic foreign body in the nose, a peanut, had given no local symptoms for years and was accidentally disclosed during routine otolaryngological examination in connection with angioneurotic edema, a sequel of the foreign body. The discovery of foreign bodies long present in the nose is an uncommon occurrence. Worthington [1] described a foreign body present for 13 years, Camerer,[2] for 17 years, Kelemen,[3] for 28 years, and Marks,[4] for 12 years. In none of these cases had the foreign body become the cause of angioneurotic edema as in the case described below, and I was unable to find a similar case in the available literature.

REPORT OF CASE

The patient, M. S., a married woman aged 21, was first seen on Nov. 17, 1949, when she was sent to me by the allergist, Dr. Loev, for routine otolaryngological examination and exclusion of focal infection. She complained of periodic swellings, appearing in various parts of her body for several years. Her eyelids, lips, forehead, wrists, and lower parts of her legs had been particularly affected. Her suffering had increased gradually, and during the last year she had awakened every morning with a

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The patient was presented at the Meeting of the Tel-Aviv Section of the Israel Otolaryngological Society, November 17, 1949.

1. Worthington, R. A.: Foreign Body Removed from the Nose after 13 Years, Proc. Roy. Soc. Med. **12**: 159-160, 1918-1919.

2. Camerer, C. B.: Foreign Body in Nares, U. S. Nav. M. Bull. **19**: 168-169, 1923.

3. Kelemen, G.: Spontaneous Expulsion of Foreign Body by Transmigration through Nasal Wall After 28 Years, Laryngoscope **55**: 375-379, 1945.

4. Marks, M. I.: Foreign Body (Twig) in Nose, Am. Otol., Rhin. & Laryng. **58**: 289-292, 1949.

swelling of the face that usually receded during the day. Swellings of the extremities had occurred every week. She had had no pains except light headaches, and no fever but had suffered from very frequent colds. She remembered that when she was eight years old a tooth extraction of the left first upper incisor had been performed owing to some swelling of the upper lip. During the last few years she had been under the treatment of a general practitioner, had undergone several examinations allegedly including the ear, nose and throat, with no results, and she was finally transferred to the allergist.

The examination showed a normally developed young woman with normal throat and ears. In the mouth the left first upper incisor was missing and was substituted for by an artificial tooth. The nose was patent with no pathologic discharge. The floor of the nasal fossa was of equal level on both sides, but on the left, in the third anterior part of the floor, a greyish spot was disclosed. Touching of the spot with a probe yielded the impression of something hard and evoked a suspicion of a rhinolith deeply and strongly embedded in the floor of the nose. After several attempts to move the hard mass by means of a blunt hook, without anesthesia, the foreign body broke and was finally removed in three parts, the procedure causing almost no bleeding. Reconstruction of the parts produced a whole peanut, still in its shell, which measured 12 mm. in length and 7 mm. in diameter. The shell was relatively thick and hard. The kernel appeared to be a uniformly changed mass, soft, of cheeselike consistency, and strongly fetid. After removal of the foreign body a deep corresponding hollow in the floor of the nose became evident. The surface of the hollow was rough, and bleeding was nearly absent. The anterior part of the left inferior concha was underdeveloped.

The patient was exceedingly surprised when she saw the foreign body, and could not trace in her memory any episode suggesting the way or time it had entered her nose. Next morning there was no swelling of the face. The patient was sent home. I next saw her on July 30, 1950. Since the removal of the foreign body the bouts of swellings and colds disappeared completely, and the patient was cured and happy. In the nose, on the left side, I could no longer see the hollow, which was now filled up and covered with normal mucous membrane. The anterior parts of the left inferior concha remained underdeveloped.

COMMENT

The presence of the foreign body in the nose for at least 17 years may be assumed, since the patient could not remember putting it into her nose. The assumption is corroborated by the anatomical changes in the floor of the nose and of the left inferior concha and by the mentioned incident of lip swelling and tooth extraction in the patient's childhood. Of unique interest is the fact that the organic foreign body, the peanut remained undecayed as a whole for many years and caused no local symptoms but colds. In effect, no suspicion of its presence arose.

The case is an important contribution to the etiology of angioneurotic edema, as it shows that a foreign body in the nose, with no local symptoms, may cause angioneurotic edema. The complete recovery after removal of the foreign body is ample proof of it.

SUMMARY

A case of angioneurotic edema due to a foreign body long present in the nose is described.

The foreign body, a whole peanut, still in its shell, gave no local symptoms, supposedly, for 17 years but caused angioneurotic edema of the face and upper and lower extremities.

Removal of the foreign body resulted in full recovery.

28 Allenby Road.

REMISSION OF CUSHING'S SYNDROME FOLLOWING ADRENALECTOMY

REPORT OF A CASE

Seymour F. Wilhelm, M.D.
and
Emmanuel Dickler, M.D., New York

Recent studies with corticotropin (ACTH) and cortisone indicate that Cushing's syndrome is basically caused by hypersecretion of certain adrenal cortical steroid hormones.[1] Such adrenal hyperfunction, or perhaps dysfunction, may be caused by an intrinsic lesion of one or both of the adrenal glands, or may be activated by hormonal hypersecretion of the pituitary and possibly also of other endocrine glands. This newly acquired evidence supports the assumption that Cushing's syndrome may occur on a purely functional basis in the absence of demonstrable pathological changes in the adrenal glands. While some lesion of an adrenal gland, such as hyperplasia or neoplasm, has been demonstrated in most cases of Cushing's syndrome,[2] there are a few authentic cases in which the adrenal glands were found histologically normal.[3] Such was the case reported here of classical Cushing's syndrome in a woman aged 45, whose progressive downhill course was suddenly interrupted by a total left adrenalectomy.

REPORT OF A CASE

History.—On May 8, 1948, a female schoolteacher aged 45 was referred to the medical service of the Beth Israel Hospital by Dr. Arthur Fishberg with a diagnosis of Cushing's syndrome. Her chief complaints were swelling of the body, excessive hairiness, and the voiding of large amounts of urine. She had first noticed a rather sudden onset of swelling of the face, trunk, and lower extremities about 10 months prior to her hospital admission. She had next noticed an increasing adiposity of the face and trunk, and had discovered that she had gained 30 lb. (13.6 kg.). At the same time, she had become aware of an increased growth of thick dark facial hair, and a thinning and loss of scalp hair. Her skin had become quite dry and had assumed an unusual reddish color. Her breasts had decreased in size.

The patient had noticed an increase in thirst and appetite, as well as frequent urination. A little later there had been some weakness of the lower extremities and difficulty in walking. Vision had become poor, with blurring of distant objects. The menstrual history, which had previously been quite normal showed that she had been amenorrheal for the past eight or nine months. For about the same length of time, the patient had com-

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The authors acknowledge with appreciation the valuable suggestions and help of Dr. Arthur M. Fishberg.

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3. Cushing, H.: Papers Relating to the Pituitary Body, Hypothalamus, and Parasympathetic Nervous System, Springfield, Ill., Charles C Thomas, 1932. Kepler, E. J.; Sprague, R. G.; Mason, H. L., and Power, M. H.: The Pathologic Physiology of Adrenal Cortical Tumors and Cushing's Syndrome, in Laurentian Hormone Conference: Recent Progress in Hormone Research, Proceedings, 1947-1948, New York, Academic Press, Inc., 1948, Vol. 2, p. 345.

plained of moderately severe, sharp, fairly constant, nonradiating pain in the left loin. She gradually had become more irritable and mentally unstable, with frequent episodes of depression and weeping.

The patient had been healthy prior to the onset of the above symptoms, and both the past history and the family history were not remarkable.

Physical Examination.—The patient's appearance was typical of Cushing's syndrome; she had a moonlike face, buffalo-type adiposity, plethora, and numerous large purplish striae over the lower abdomen. There was an excessive amount of thick, dark, coarse facial hair whereas the hair on her scalp was sparse and dry. Her breasts were small and flabby. Her weight varied between 126 and 128 lb. (57.2 and 58.1 kg.).

Examination of the heart revealed a rough apical systolic murmur. The blood pressure was 180/120. The abdomen was very obese but no masses were palpable. There was slight tenderness in the left costovertebral region.

Left, preoperative photograph (May 1948). Right, photograph made two and one-half years after the operation (Dec. 16, 1950).

Laboratory Data.—Urine examination before breakfast on May 10, 1948, showed 1 + glucose and 1 + albumin, but no acetone. Microscopic examination was negative. Glucose from 2 to 4 + was found in all the urine specimens examined during the next three days. The basal metabolic rate was + 3.

On May 11 fasting blood glucose was 194 mg. per 100 cc.; a glucose tolerance test showed a typical diabetic curve. The total blood proteins were 6.9 mg.; albumin 4.9; globulin 2.0. Blood chlorides were 588 mg. per 100 cc.; blood sodium 308.8 mg. per 100 cc.; blood potassium 18 mg. per 100 cc.

On May 13 a 24-hour specimen of urine was collected for determination of the 17-ketosteroids. The total volume was 1,960 cc., and contained 15.9 mg. of 17-ketosteroids. A test for dehydroisoandrosterone was negative.

A second urine specimen collected on May 17 was also negative for dehydroisoandrosterone. The total volume was 2,820 cc. and the 17-ketosteroids were 21.3 mg.

On May 18 the blood calcium was 8.6 mg. per 100 cc.

An electrocardiogram was reported as showing insufficient changes to indicate myocardial involvement.

An electroencephalogram revealed generalized dysrhythmia and a moderate increase in fast and slow activity. The possibility of a deep-seated midline lesion was considered. Visual field studies showed no significant abnormality.

X-ray Examination.—A lateral film of the skull revealed some mottling of the bones of the vault, but the sella turcica was normal in size. There was some absorption of the posterior clinoids.

The lungs were normal, but there was a slight ventricular enlargement of the heart.

The long bones showed no abnormality, but the lumbar spine was the seat of productive spondylitis.

On excretory urography, the pelves and calyxes of the kidneys were not well visualized, and the bladder appeared normal.

Perirenal insufflation was done on May 14, 1948. With a pneumothorax apparatus 500 cc. of air was injected on each side. Both kidneys were normal in size, shape, and position, and both adrenal glands were clearly delineated. The right adrenal shadow appeared normal in size and shape; the left was somewhat larger than the right.

In view of the laminagraphic findings and the progressively unfavorable course of the patient, it was decided to explore the left adrenal region. On the day prior to operation, adrenal cortex extract and 10 gm. of sodium chloride were administered.

Operation.—On May 20, 1948, the left adrenal gland was exposed through a lumbar incision. It was encased in a sheath of adherent fat, but was normal in size, shape and appearance. Nevertheless, a total left adrenalectomy was done.

The pathological report made by Dr. Henry Brody showed the following:

Specimen: Left adrenal gland and fat tissue. Gross: Resected adrenal gland together with several very tiny fragments of adrenal tissue, in all weighing 4.7 gm. The gland measured 4.1 x 2.7 cm. and was essentially quadrilateral in shape. It showed the usual thickened central region and at the thickest point measured 0.8 cm. On section practically no medulla was seen at any of the many levels examined. Distinct lamination was not made out. The outer cortical zones were yellow to yellow-brown with numerous pinhead brighter yellow areas. An occasional somewhat larger than pinhead, deep brown to black nodule was seen. There was an inner deep brownish-black zone of irregular thickness. Sections in formaldehyde solution and in gelatin were made. Sections for special histochemistry were made, and the remainder of the gland was taken for lipidanalysis. About 1 tablespoon of periadrenal fat tissue was received. One section was made.

Microscopic Examination: The cortex was relatively thick. The glomerular zone tended to be thin and poorly formed. The fascicular zone was the thickest portion of the cortex, but showed fasciculate arrangement only in part. Portions of it were quite rich in lipid, as seen in Sudan IV and Sudan black stains. Other portions were quite granular and in the lipid stains showed no fat. The reticular zone contained less pigment than would have been judged from the gross appearance of the gland. No fuchsinophil cells were found. In places the cortex appeared somewhat nodular, and an occasional extra capsular nodule was found. An occasional cluster of cortical cells was seen in the midst of the medulla, and these tended to give a somewhat deeper Sudan reaction than other lipid-containing cortical cells. There was some hemorrhage in the capsule and cortex, probably of traumatic origin.

Diagnosis: Nonenlarged adrenal gland, showing perhaps very slight hyperplasia of cortex.

Postoperative Course.—The patient withstood the operative procedure well, and returned to the ward in good condition. Her postoperative course was uneventful, with only minimal febrile reaction. Her blood pressure was maintained at a satisfactory level, and on the second postoperative day was 148/70. The wound healed by primary union.

During her postoperative hospital stay, the patient reported a sense of well-being and was able to walk about with greater ease. Her spirits improved and her visual disturbance was also diminished. She left the hospital on May 31, 1948. At home the physical and mental recovery continued steadily.

Follow-up Observations.—A progress note on July 7, 1948, pointed out the following. Clinically, the patient appeared to be much improved. Her mental attitude was much better. The leonine facies, which she had, was much lessened. Her sister

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stated that she was more normal at home, having regained her sense of humor, and the patient was now able to partake in social functions.

After the examination on July 7 a course of x-ray therapy directed to the pituitary was begun. There was administered 2,400 r (scatter) to each of the left temporal, right temporal and forehead portals from July 7 to Aug. 4, 1948. The sella dose was calculated at 2,640 r. The physical factors were 200 kv.; 0.5 copper; 1.0 aluminum; half value layer 1.39 mm. copper; target skin distance 50 cm.; and r per minute 24.6.

Improvement continued, and in August, three months after the left adrenalectomy, the urinary 17-ketosteroid excretion had dropped from a preoperative level of 21.3 mg. in 24 hours to 9.8 mg. The blood glucose was now normal and there was no glucose in the urine. The blood pressure, which prior to operation had been 180/120, had now fallen to 140/80.

On Sept. 30, 1948, the patient stated that she felt completely normal. She had lost all the symptoms of diabetes and the abnormal hair had fallen out. The patient's general appearance was normal; she was cheerful and less obese. Her blood pressure was 134/70.

On Dec. 24, 1949, the patient stated that she felt well mentally and physically and that she was carrying a full program in her school work. As a result of diet and medication (amphetamine [benzedrine®] sulfate and thyroxin), she had lost 36 lb. (16.3 kg.) in the preceding four months. Her blood pressure, however, was 190/90. This elevation was ascribed to the amphetamine and thyroxin. A urine specimen was negative for glucose.

On Jan. 15, 1949, the patient was well and appeared normal except for a recent weight gain of 15 lb. (6.8 kg.). On Jan. 14 the patient began to menstruate for the first time since the onset of her illness about one and one-half years previously. Her blood pressure was 140/90. She was placed on a low caloric diet in order to determine whether her recurrent obesity was due to overeating.

On Feb. 19, 1949, her blood pressure was 140/90. The abdomen was only slightly obese, and there was complete loss of the abnormal hair. The patient's weight had remained stationary.

On April 2, 1949, she was well, but still obese. Menstruation occurred regularly every month, the period lasting four days. Her blood pressure was 130/80. She weighed 159 lb. (72.1 kg.). X-ray examination of the skull showed some recalcification of the posterior clinoids. The skull otherwise appeared the same as on previous examination.

On June 17, 1949, the patient's only complaint was that of obesity. The blood pressure was 135/90, and menstruation continued regularly at monthly intervals.

On July 18 the patient had lost 8½ lb. (3.8 kg.) while under the care of her private physician. Her blood pressure was 140/80. She was menstruating at the time of this examination.

On Aug. 17 the patient's only complaint was that of general tiredness. There was evidence of a recent weight loss. Her blood pressure was 145/70.

On Nov. 5 the patient weighed 135 lb. (65.2 kg.), representing a loss of about 25 lb. (11.3 kg.) as a result of a low caloric diet and amphetamine. The abdominal striae were no longer present, but an incisional lumbar hernia was noted. The blood pressure was 160/80.

On May 10, 1950, the patient's only complaint was that of bilateral ankle edema after prolonged standing. She was actively employed in her profession. The menstrual periods had been regular until Nov. 1949, when they had suddenly stopped. The stopping was considered to be menopausal. The patient's weight was 115 lb. (52.1 kg.) and her blood pressure was 180/90. She was very excited at the time of this blood pressure reading. Urine examination was negative for glucose.

On Dec. 16, 1950, the patient stated that she had been feeling well except for occasional headaches and slight weakness in the left leg when walking upstairs. She was working regularly and enjoying an active social life. The heart sounds were normal and regular. Her blood pressure was 165/115; and her weight, 116 lb. (52.6 kg.). She complained of a moderate sized left lumbar incisional hernia. The 17-ketosteroids were 13.9 mg. in 24 hours. Blood sodium was 137 mEq.; chlorides, 104.8 mEq.; glucose, 116 mg. per 100 cc.; total proteins, 6.22 mg. per 100 cc.; albumin, 4.37; and globulin, 1.85.

COMMENT

A woman aged 45 with a classical Cushing's syndrome was apparently completely relieved after total surgical excision of a grossly normal adrenal gland, and subsequent pituitary irradiation.

Remission of Cushing's syndrome after the enucleation of an adrenal neoplasm has occurred by now with sufficient frequency not only to establish the causal relationship of such tumors to this disease, but also to indicate their surgical removal whenever possible.

In 1936 Kessel [4] reported Crile's case of a typical Cushing's syndrome in a girl aged 17. Following bilateral adrenal denervation and a right partial adrenalectomy, the hirsutism and obesity disappeared, the blood pressure and sugar tolerance returned to normal, and the patient was apparently well for about one and one-half years. Then, however, the patient died rather suddenly of an acute intercurrent infection, and, at autopsy, a basophilic adenoma of the pituitary was found. Relief of symptoms had been accomplished by reducing the adrenal function even though the primary lesion was in the pituitary.

Urinary 17-Ketosteroids

Date	Urine Volume in 24 Hr.	17-Ketosteroids in 24 Hr.	Dehydroisoandrosterone
5/13/48	1,900 cc.	15.9 mg.	Negative
5/17/48	2,820 cc.	21.3 mg.	Negative
5/20/48	Left Adrenalectomy		
5/25/48	2,080 cc.	10.6 mg.	.....
8/27/48	590 cc.	9.8 mg.	.....
2/12/49	800 cc.	22.1 mg.	.....
11/ 5/49	1,080 cc.	12.3 mg.	.....
12/16/50	1,710 cc.	13.9 mg.	.....

Recent experience with corticotropin and cortisone indicates clearly that the symptoms and signs of Cushing's syndrome are basically due to hypersecretion of steroid hormones by the adrenal cortex. Surgical excision of an adrenal is probably followed by a sudden diminution in the total cortical hormone secretion. This, indeed, seemed to be the case in two adrenalectomies for hyperplasia with female pseudohermaphroditism done by one of us (S. F. W.).[5] In both of these patients the 24-hour excretion of the neutral 17-ketosteroids was almost exactly halved after total excision of the one adrenal.

In the patient described in this article, the prompt remission of the Cushing's syndrome after surgical excision of a grossly normal adrenal gland may also be ascribed to an abrupt quantitative reduction in adrenal cortical hormone secretion.

The evaluation of the pituitary irradiation is more difficult, since it was begun only seven weeks after the adrenalectomy when marked improvement had already occurred. In previous reports, the results of radiotherapy in Cushing's syndrome have been inconstant and at best

4. Kessel, F. K.: Morbus Cushing: Ein Überblick über Klinik und Kasuistic des basophilen Hypophysenadenoms, Ergebn. inn. Med. u. Kinderh., 50: 620, 1936.

5. Wilhelm, S. F.: Resection of Hyperplastic Adrenal Glands for Female Pseudohermaphroditism, J. Mt. Sinai Hosp. 14: 679, 1947.

temporary, except in isolated cases. The x-ray therapy in our patient may, however, have contributed to the completeness of the remission, as well as to its duration.

While spontaneous remissions of Cushing's syndrome have at times been observed, the prompt improvement after operation affords strong evidence that in this case the adrenalectomy was the decisive stroke which interrupted and reversed the morbid course.

40 E. 83rd St.

ASPIRATING BRONCHOSCOPE FOR THE GENERAL SURGEON, OBSTETRICIAN, AND ANESTHETIST

Ernest B. Emerson Jr., M.D., Rochester, New York

Over the last 10 yr. the problem of postoperative atelectasis, the problem of the patient with aspirated vomitus, and similar problems have become more generally appreciated. Indeed, the literature contains an ever increasing volume of material on such emergencies, but a discussion of them is beyond the scope of this paper. However, as a result of the more general appreciation of these emergencies, my associates and I have noted an ever increasing number of inquiries from former students and residents, located where experienced bronchoscopists are not available, as to what instruments they should buy to care for their patients. Many of these men are working at places where financial resources are limited, and in more than one communication the request has included a desire for information concerning the absolute minimum of equipment needed for bronchoscopic examination. With these factors in mind, that is, (1) reducing the equipment to a minimum in order to cut the cost, (2) simplifying the equipment in order to eliminate the technical difficulties (usually electrical) inherent in the more conventional bronchoscopes, and (3) maximizing ease of insertion and safety in the hands of men not especially trained in endoscopy—we have made certain modifications in bronchoscopes already existing.

As in the case of the equipment previously described for handling tracheobronchial aspiration in the newborn,[1] this bronchoscope is designed not as a substitute for the more highly developed instruments and techniques but as an instrument which may be lifesaving under the circumstances already indicated.

THE INSTRUMENT

To fulfill the first two requirements, that is, to limit the cost and total amount of equipment necessary, it was decided to incorporate into one instrument the power supply, oxygen carrier, and bronchoscope. Thus, it was possible not only to eliminate battery boxes, transformers, and light cords from the cost but to simplify the whole bronchoscopic setup as well. This was not entirely a new idea since anesthetists have had laryngoscopes made this way for years, and Dr. Fenimore E. Davis has designed such a bronchoscope.

The third requirement, that is, ease of insertion and safety, posed more of a problem. However, experience over the past 11 yr. in training surgical interns in all sorts of bronchoscopes has pointed repeatedly to the fact that the newcomer to bronchoscopy finds the Israel type of instrument[2] by all odds the easiest to master. In addition to ease of insertion, this type of bronchoscope, since it is inserted directly, eliminates another accessory, which in itself is hard to handle, namely, the laryngoscope. Therefore, the battery-containing handle of the instrument was placed in a position opposite to that of the Jackson and present existing battery-containing bronchoscopes. This resulted in a bronchoscope that can be used with fair ease of insertion even by the beginner.

The barrel or tube of the bronchoscope is 2¼ in. (5.72 cm.) shorter than the standard adult diagnostic Israel bronchoscope and is, therefore, safer since it cannot be inserted deeply into the bronchus where

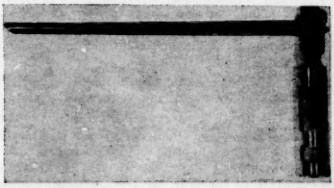

Fig. 1.—The bronchoscope. The handle contains the batteries and has been placed so as to be dependent during insertion of the instrument. The tube is narrower at the distal end.

damage is most likely to occur. It is, however, long enough for either bronchus to be entered and allows direct vision for guiding the suction tube deeper into the lung. Further, the tube of the bronchoscope is tapered, being 7 mm. at the distal end and 9 mm. at the handle.[3] This tapering has two advantages: First, for the untrained eye, vision through a long tube is facilitated, and, second, more freedom of motion with the suction tube is allowed without undue movement of the bronchoscope. Both of these advantages are appreciated by the novice and by the person who does only an occasional bronchoscopy.

TECHNIQUE

It is not the purpose of this paper to go into the fine points of bronchoscopic techniques as used by thoracic surgeons and endoscopists, but, since the instrument is being presented for the emergency use of operators belonging to groups other than the foregoing, certain points in its use should be emphasized.

If the patient is under general anesthesia, the problem of coughing and gagging does not arise. However, if the emergency involves a conscious patient it is usually sufficient to anesthetize the throat by carefully

From the Department of Surgery, Division of Otolaryngology, University of Rochester School of Medicine and Dentistry.

The bronchoscope herein presented is available, to the profession, at The Foregger Company, Inc., 55 W. 42d St., New York 18.

1. Emerson, E. B., Jr.: A Safe and Positive Method of Tracheobronchial Aspiration in the Newborn, J. A. M. A. **144**:613 (Oct. 21) 1950.

2. Israel, S.: An Improved Bronchoscope and Esophagoscope, Arch. Otolaryng. **14**:479 (Oct.) 1931.

3. Negus, V. E.: The Simplification of Technique in Peroral Endoscopy, Brit. M. J. **2**:1223 (Dec. 23) 1939.

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spraying it three to four times with 2% tetracaine (pontocaine®) hydrochloride. This will eliminate or deaden the gag and cough reflexes sufficiently enough to allow insertion of the bronchoscope. Tetracaine may

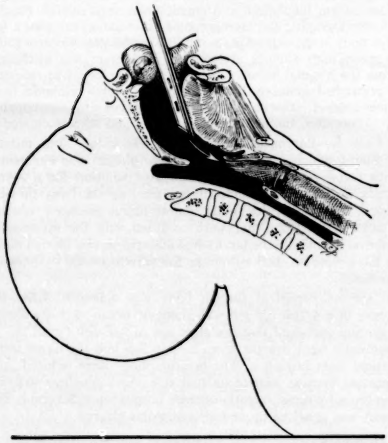

Fig. 2.—The beginning of the insertion of the emergency bronchoscope over the left thumb to the point at which the epiglottis is visualized.

be used intratracheally if desired, but the nature of the emergencies for which the instrument was designed contraindicates actual tracheal anesthesia, since cough-

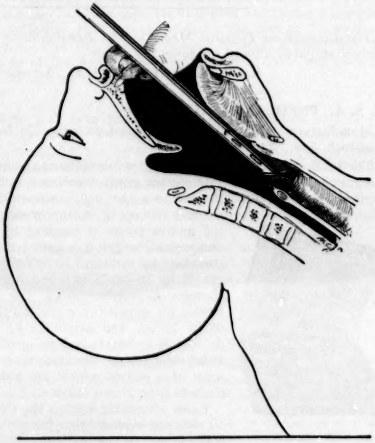

Fig. 3.—The bronchoscope has been advanced to the vocal cords, both the tongue and epiglottis having been pushed up and away by the tube.

ing aids in bringing the foreign material to the suction tip once the tracheobronchial tree has been entered.

Most physicians using a bronchoscope for the first time will find the atmosphere of the operating room and the additional help available there comforting. However, once the instrument has been mastered it is comparatively easy to perform the procedure in the patient's room. By placing the patient diagonally on a Gatch bed, the necessary position can be obtained; in the absence of assistance a pillow under the shoulders and neck will facilitate matters. It is under these circumstances that a one-piece bronchoscope and light source is most fully appreciated.

Insertion of the bronchoscope is initiated by placing the left thumb over the upper teeth or gum, where it serves as a fulcrum and a guard against dental damage. Over this thumb the instrument, held in the right hand, is inserted into the mouth until the uvula comes into view (Fig. 2). Then, using the thumb as a fulcrum, the handle of the scope is brought slowly down, the barrel thus lifting the tongue up out of the way (Fig. 3). At the same time, the instrument is advanced deeper into the throat and, as the epiglottis is visualized, is passed under it, the epiglottis in turn being lifted up and away in the same manner as the tongue. At this point the vocal cords are visualized, and the head is then extended far enough to allow full view of the glottic chink. As soon as the cords open, in inspiration, the scope is turned sideways, and the bill is slipped quickly between the

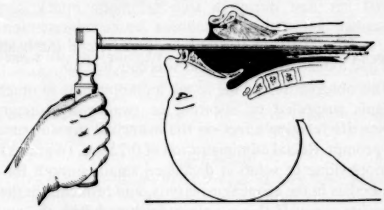

Fig. 4.—With the head extended, the bronchoscope has been carried on into the trachea.

cords. From this point on the tube is easily advanced, under direct vision, to the desired position in either main bronchus (Fig. 4). The simple insertion of the suction tube, the only other instrument needed, and the removal of the offending material completes the procedure, and the two instruments are quickly withdrawn together.

SUMMARY

An emergency aspirating bronchoscope suitable for use by surgeons, obstetricians, and anesthetists has been presented. The instrument reduces the total cost of equipment to a minimum since it eliminates many of the accoutrements of conventional bronchoscopy. The instrument has been designed with an eye to ease of use and maximum safety in the hands of operators not specializing in endoscopy. The bronchoscope described has been found satisfactory for the use for which it was designed—that is, the emergency aspiration of foreign material, such as mucus, blood, and vomitus, in atelectatic lungs of traumatic or postoperative origin or the removal of aspirated material from the tracheobronchial tree of the flooded lungs of the very ill. It is believed that the availability of such equipment will, in many instances, be lifesaving in the absence

of a trained bronchoscopist. It has occurred to me, on the basis of three and one-half years of active duty with the armed forces, that this instrument would make an ideal all-purpose bronchoscope for military purposes.

26 Strathallan Pk.

DISLODGING FOREIGN BODIES, INSPIRED OR SWALLOWED BY CHILDREN, WITH AMINOPHYLLINE

I. Newton Kugelmass, M.D., New York

Children inspire or swallow foreign bodies because they explore things with their mouths. Inspiration of such objects into the air passages is usually the result of a sudden gasp for breath after excitement, crying, or laughing, but swallowing may force an object over the laryngeal aperture. If a foreign body lodges in the esophagus, it is too large or too spiky to pass through to the stomach.

An asthmatic girl swallowed a bead without her mother's knowledge, and soon a spastic persistent cough developed. Because of the indefiniteness of signs in the lungs, diagnoses of whooping cough, enlarged mediastinal glands, and bronchopneumonia were made. I observed her first during a true asthmatic attack and prescribed aminophylline solution by rectal retention. The asthmatic attack cleared temporarily, and the bead that had lodged in the bronchus was coughed up.

This observation led me to use aminophylline in other patients suspected of inspiring or swallowing foreign bodies. Its relaxing effect on the bronchial musculature was prompt. Rectal administration of 0.25 gm. (4 grains) aminophylline in solution dislodged small, smooth foreign bodies in the esophagus, larynx, and bronchus in the following cases. If this simple procedure failed, the patient was hospitalized for further study.

REPORT OF CASES

CASE 1.—Congenital stenosis of the esophagus without fistula formation became apparent with the introduction of semisolid food in a 4 mo.-old-female child. Diagnosis was confirmed by roentgenologic studies. Treatment by esophagoscopic dilatation was carried out by Dr. Chevalier Jackson. In the interim the infant experienced marked distress after taking solid food in excess of her capacity. She vomited, coughed, struggled, and became cyanotic when she ate too much or too quickly. The mechanical difficulty was cleared completely and effectively with rectal retention of a solution of 0.2 gm. (3 grains) aminophylline containing 0.06 gm. (1 grain) ethyl aminobenzoate (anesthesin®) to prevent local pain and subsequent nausea.

CASE 2.—Catarrhal esophagitis complicated pneumonia in a 3 year old boy. He experienced substernal pain on swallowing, dysphagia, and hematemesis. The symptoms cleared at the onset with a rectal retention of 0.20 gm. (3 grains) aminophylline and 0.06 gm. (1 grain) ethyl aminobenzoate in solution. The difficulty in swallowing on the second day was completely alleviated by the same treatment.

CASE 3.—Esophageal foreign body was suspected in a 5 year old girl who said that something stuck in her throat. She refused to take solid food and had difficulty in swallowing. Then she began to cough, gag and choke. Frightened, she volunteered the information that she swallowed a pearl button. Fluoroscopic examination localized it in the cervical esophagus. A solution of 0.25 gm. (4 grains) aminophylline and 0.06 gm. (1 grain) ethyl aminobenzoate was given by rectal retention before admission to the hospital for esophagoscopic removal. The button was released spontaneously.

CASE 4.—Laryngeal foreign body was the unsuspected cause of croupy cough with aphonia and moderate fever in a 14 month old girl. The family physician admitted her to the contagious ward. Treatment with diphtheria antitoxin and penicillin injections, steam inhalation, and emetics was unsuccessful. Finally, roentgenographic and laryngoscopic examination revealed a foreign body in the sagittal plane, but the mechanical problem foiled a preliminary attempt at removal. The infant was discharged from the hospital before direct laryngoscopy could be repeated. I prescribed aminophylline solution by rectal retention three times a day. On that same day a plastic part of a toy was coughed up. Thereafter, the hoarseness, dyspnea, and wheeze cleared.

CASE 5.—Laryngeal foreign body was lodged four months without producing symptoms in a 7 year old girl. She was treated with rectal retentions of aminophylline solution for a severe attack of asthma. She suddenly coughed up the ivory tip of a pencil. Apparently, this small, smooth object produced repeated attacks of coughing that were confused with the accustomed asthma. Eventually the larynx had adjusted to this foreign body, as there were no such symptoms for months except dyspnea on exertion.

CASE 6.—Bronchial foreign body was diagnosed from the history of a 4 year old girl who suddenly began to choke during play. She explained that the glass eye of her doll "went in." It apparently went straight down the trachea into the larger more vertical right bronchus. The breath sounds were reduced, and wheezing became audible on that side. Aminophylline solution was given by rectal retention before hospitalizing the child. The object was coughed up and all symptoms cleared.

1060 Park Ave.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

The Council on Physical Medicine and Rehabilitation has authorized publication of the following report.

RALPH E. DE FOREST, M.D., *Secretary.*

M. S. A. PNEOLATOR ACCEPTED

Manufacturer: Mine Safety Appliances Company, 201 North Braddock Ave., Pittsburgh 8.

The M. S. A. Pneolator is a device for administering artificial respiration by means of intermittent positive pressure without suction. The apparatus is housed in a carrying case resembling a heavy suitcase or steamer trunk, and the motive power is supplied by the compressed oxygen in a cylinder. The carrying case measures 20 by 66 by 53 cm. (8 by 26 by 21 in.), and with its contents it weighs 23 kg. (50 lb.). Crated for shipment it measures 22 by 68 by 58 cm. and weighs 25 kg. (55 lb.). Spare cylinders and an auxiliary attachment for the simultaneous treatment of a second patient are not included in the above weights.

M. S. A. Pneolator

From acceptable sources the Council obtained evidence that the physical performance of the apparatus was as represented by the manufacturer. Because evidence at hand, however, is not sufficient to establish its usefulness as an emergency respirator for use by fire departments and rescue squads, it is not accepted for this purpose. The Council on Physical Medicine and Rehabilitation voted to accept the M. S. A. Pneolator as an artificial breathing apparatus for use in hospitals, operating rooms and other medical institutions under the direction of a physician.

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REPORTS OF OFFICERS

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The secretary respectfully submits the following annual report:

Membership

The table showing the number of members of the American Medical Association by states and territories which it is customary to present in the Secretary's report has not been prepared. It has been thought better to wait until next year when it will be possible to submit a more accurate and informative listing.

As of Oct. 1, 1951, there were 107,345 members of the American Medical Association who had paid their 1951 membership dues. In addition to this number, there were many more who were exempt from payment of dues but who were still carried as members, such as disabled physicians, residents and physicians temporarily absent on active service in the Armed Forces. There are approximately 7,500 Service Fellows, who have direct Fellowship and do not pay dues as members. The exact count of members will be made just prior to December 1, so as to supply all secretaries of constituent associations with the number of members on which the apportionment of delegates from their associations for 1952 will be made.

The Membership and Subscription Department has been functioning for many years under a system that was rather antiquated but worked well until 1950. With the complete change by which dues were levied on members, this system has proven inadequate. The Executive Committee of the Board of Trustees recently authorized a survey of this department by a management engineering firm. This company made a very careful analysis and report and recommended the installation of International Business Machines to facilitate the work of the department. The plan was accepted, and the department is now undergoing a complete reorganization. It is expected that by the first of the year the reorganization will have progressed to such a point that the keeping of the Association's membership records will be more efficient and up to date.

Field Activity

There have been many demands during the past year on the Secretary and the Assistant Secretary to appear at medical meetings throughout the country. The demands for these personal appearances seem to be increasing from year to year. In addition, liaison with numerous other national medical societies makes more and more demands on the executives of the headquarters staff, so that travel has increased to an appreciable extent.

Resolutions to Be Presented to the House of Delegates

The Secretary has received the following resolution, which is to be presented to the House of Delegates by delegates of the Ohio State Medical Association:

RESOLUTION ON PLACE OF INTERIM SESSIONS OF HOUSE OF DELEGATES

Whereas, It has been customary for the House of Delegates to hold its interim session during the Clinical Session of the American Medical Association; and

Whereas, This has required excessive travel on the part of many delegates who seldom have time to attend the Clinical Sessions; and

Whereas, This requires travel on the part of many members of the staff of the Chicago office of the American Medical Association to some distant city and the shipment of many records and supplies from Chicago, entailing considerable expense to the Association; therefore be it

Resolved, That interim sessions of the House of Delegates be held in Chicago in December each year, and that this change become effective in 1953.

The following resolution, which also will be submitted to the House of Delegates at the Los Angeles Session has been received from the Medical Society of the State of North Carolina:

RESOLUTION ON NEGRO PHYSICIANS IN NORTH CAROLINA

Whereas, The members of the Medical Society of the State of North Carolina are anxious to maintain the cordial relations existing between the white and Negro physicians in North Carolina; and

Whereas, They recognize the advantages to the Negro physicians of membership in the American Medical Association; and

Whereas, At present it is not feasible, because of limits of space in the hotels of North Carolina, and also because of existing custom, to attempt to have joint meetings of both groups; and

Whereas, The Old North State Medical Society, which for fifty-three years has been the state organization of Negro physicians, has asked to be admitted "as a constituent association of the American Medical Association"; and

Whereas, The House of Delegates of the Medical Society of the State of North Carolina, at its annual meeting in May 1951, voted to approve this request and sponsor the Old North State Medical Society as a constituent of the American Medical Association; therefore be it

Resolved, That the House of Delegates of the American Medical Association approve the recognition of the Old North State Medical Society as an affiliate of the Medical Society of the State of North Carolina, and also of the American Medical Association.

The Secretary has also received a resolution to be introduced by a delegate of the Oregon State Medical Society, as follows:

RESOLUTION ON APPROVAL OF INTERNSHIPS

Whereas, Interns should be appointed to hospitals that have adequate facilities and organization for carrying on this type of training; and

Whereas, The number of internships should be limited to approximately the number of medical students graduating and applying for such positions, leaving some excess for fair competition between hospitals; and

Whereas, The quota of interns assigned to a hospital should be based on an up to date survey of the facilities for adequate intern training offered by the hospital; therefore be it

Resolved, That any future plan for the approval of internships adopted by the Council on Medical Education and Hospitals shall conform to these principles.

Appreciation

The Secretary desires again to offer an expression of his sincere appreciation for the assistance and many courtesies he has received from the officers and members of official bodies of the American Medical Association, as well as from many officers and members of the constituent and component medical societies. The personnel at Association headquarters, numbering 838, are deserving of praise for loyal and efficient contributions to the administration of the Association's affairs.

Respectfully submitted,

GEORGE F. LULL, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

The following annual report of the Board of Trustees is respectfully submitted:

Report on Matters Referred by House of Delegates

Resolution on Income Tax Exemption.—In accordance with the action taken by the Board of Trustees, as reported to the House of Delegates in June 1951, on the Resolution on Income Tax Exemption introduced by Dr. J. Wallace Hurff, New Jersey, in June 1950, preliminary steps are being taken to initiate within the Bureau of Internal Revenue the procedures necessary for a review of the 1921 ruling which denies deductions to physicians for expenses incurred in taking postgraduate courses. The report of the Bureau of Legal Medicine and Legislation contains an item on this subject. Further reports will be made from time to time as new developments occur.

Resolution on Free Choice of Physicians for Federal Employees.—The Board referred back to the Council on Industrial Health the resolution introduced by Dr. J. Stanley Kenney, New York, in June 1949. A report has been received to the effect that a meeting was held on October 17 between representatives

of the Council on Industrial Health and Dr. Kenney, at which it was announced that he would submit an official statement on the subject. This statement, when received, will be presented to the House of Delegates.

Retirement Benefits and Pension Plans.—Three separate resolutions having to do with retirement benefits and pension plans for professional persons were submitted to the House of Delegates in June 1951 by Drs. W. D. Stovall, Wisconsin, W. H. Huron, Michigan, and W. P. Anderton, New York. The Board strongly supported the Ives amendment to H. R. 4473, 82d Congress, which would authorize the tax free diversion of certain sums each year by physicians, among others, for the purpose of purchasing retirement and other benefits. However, the Ives amendment was not adopted by this session of Congress. It is possible that some plan comparable to the amendment will come up for consideration again in the second session of the 82d Congress, in which event the Association will again vigorously support it. The report of the Bureau of Legal Medicine and Legislation contains a statement on this matter.

Resolutions on Publicizing American Medicine.—These resolutions presented by Dr. Edward P. Flood, New York, in June 1951 were referred to the Department of Public Relations for implementation. The Department expects to have a report on the subject matter in the near future.

Resolution on Stamps of Approval for Iodized Salt Packages.—This resolution introduced by Dr. William A. Hyland, Michigan, was referred to the Council on Foods and Nutrition, which has reported that at the present time fifteen different brands of iodized salt have been accepted and have been accorded the seal of acceptance of the Council.

Resolution on Distribution of Medical Care.—The Board of Trustees referred to the Committee to Study the Twelve Point Program the resolution introduced in June 1951 by Dr. William F. Costello, New Jersey. The Committee held a meeting on October 27 in New York at which this resolution was discussed, and a report will be submitted to the House of Delegates at the Los Angeles Session.

Resolution on Costs of all Technical and Professional Training.—The resolution introduced by Dr. E. F. Hoffman, California, was referred by the Board to the Council on Medical Education and Hospitals and the Bureau of Legal Medicine and Legislation for study and report.

Resolutions on Medical Relations in Workmen's Compensation.—The Board referred to the Council on Industrial Health the report of the Reference Committee on Industrial Health with respect to the report of the Council on the Resolutions on Medical Relations in Workmen's Compensation, adopted by the House of Delegates in June 1950. The Board requested the Council to submit another report when complete returns are available from the persons contacted with respect to this matter. Final action by the Board will be held in abeyance until a final report is forthcoming.

Membership, Fellowship and Dues

There was much discussion of the meeting of the House of Delegates in June relative to the continuation of the classification of Fellowship and of the levying of Fellowship dues. This matter was referred to the Board of Trustees. In addition, the Committee on Constitution and By-Laws has given careful consideration to this subject and will present a report to the House. The Board of Trustees recommends that there be only one class of membership and, consequently, also recommends that for the year 1952 no Fellowship dues be charged. The Board wishes to call the attention of the House of Delegates to the fact that by doing away with Fellowship dues, the Association will lose approximately $350,000 of income.

Public Relations

The recommendation from the House of Delegates that continued efforts be made to increase the interest, education and participation of physicians in public relations has received the careful consideration of the Board of Trustees. Every effort is being expended to implement this recommendation of the House. It is hoped that those delegates who find it possible will attend the meetings on medical public relations held immediately before the Clinical Session convenes.

Expression of Appreciation to Woman's Auxiliary

The Board of Trustees wishes to express its deep appreciation of the many fine programs being conducted by the Woman's Auxiliary to the American Medical Association and by the woman's auxiliaries to the constituent associations. The projects undertaken by the Auxiliary vary from one state to another reflecting local interests and needs, but in almost every instance these projects are conducted with enthusiasm and effectiveness. They include nurse recruitment drives, promotion of *Today's Health*, participation in the programs of other organizations, distribution of health education material, civil defense and many other activities. Their role in getting out the vote in 1950 and publicizing the issues cannot be given sufficient credit. In many states it was the persistent efforts of the Woman's Auxiliary that produced such favorable results.

The Board of Trustees calls attention of the House of Delegates to these many desirable activities of the national and constituent woman's auxiliaries because of the urgent need for support and guidance of these activities by sympathetic medical societies. The representatives of the auxiliaries have repeatedly asserted that the quality of their programs reflects the interest of the medical society concerned, and that lack of support from the medical society results in no program at all or activities that are inadvisable.

The year 1952 is a key year in the history of medicine. It is highly important that medicine utilize to the fullest all of its resources. One of the most potent of these is the medical society auxiliary. The Board urges strongly that medical societies give full support and constructive advice to the auxiliaries so that they can carry out their responsibilities with the utmost efficiency.

The Board of Trustees requests the House of Delegates to support the sense of this statement, and to authorize its distribution to the constituent and component societies as the reflection of the attitude of both the Board of Trustees and the House of Delegates.

Narcotic Addiction

Because of the increasing need for an evaluation of the problem of narcotic addiction, especially among school children, the Board of Trustees has requested the Council on Pharmacy and Chemistry to secure as much information as possible on this subject and has authorized the Secretary and General Manager to contact the Federal Bureau of Narcotics for any suggestions as to how the American Medical Association can assist in the solution of this problem.

In addition, a committee will be appointed by the Board of Trustees to study the entire matter.

Joint Commission for the Accreditation of Hospitals

In September, 1950, the American Hospital Association took action to establish a hospital standardization program in the organization of which the medical profession was to have been represented by a committee of six, three to have been appointed by the American College of Physicians and three by the American College of Surgeons. As reported to the House of Delegates in June, 1951, the Board of Trustees, recognizing that such a program would be of direct concern to the entire medical profession, took steps to bring to the attention of the American Hospital Association its vital interest in the matter and requested that action implementing the program be deferred.

There followed a series of meetings between representatives of the American Medical Association, the American Hospital Association, the American College of Surgeons and the American College of Physicians, as a result of which a Joint Commission for the Accreditation of Hospitals was recommended. The House of Delegates at the June meeting approved the action of the Board of Trustees and authorized it to continue negotiations to the end that such a commission be established. At a subsequent meeting of representatives of the four organizations, the representatives of the American Medical Association, acting on instruction from the House of Delegates, requested a change in the Commission so as to give the American Medical Association a proportionately greater representation. The other members of the committee, however, expressed the view that the number of representatives from the American Medical Association and that from the American Hospital Association should be equal, particularly since the other members of the Commission would be appointed by two other professional organizations, the

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American College of Physicians and the American College of Surgeons. Further, the latter two organizations had approved the establishment of the Joint Commission on the basis of the agreement previously reached that the Commission would be composed of six representatives appointed by the American Medical Association, six by the American Hospital Association and three each by the two colleges. This plan has now been approved by all four participating organizations, and steps will be taken to put it into effect in the near future.

The Joint Commission will be the final authority for the accreditation of hospitals, carrying out the standardization program previously sponsored by the American College of Surgeons. The functions of the Commission will be: (1) to formulate standards relating to hospital accreditation; (2) to establish the type and scope of inspections to be made under this program; (3) to assign responsibility for hospital inspections to the several participating organizations; and (4) to award certificates of accreditation to qualifying hospitals. Inspections for purposes of hospital accreditation will be made and reported in a uniform manner by staff representatives of the participating organizations with the reports to be evaluated and acted on by the Commission itself. Inspections will be related primarily to the professional and administrative aspects of the hospital. They will not be concerned directly with the hospital's teaching program. Hospital surveys relating to internship and residency training will continue to be carried out by the organizations which have conducted these programs in the past. The operating expenses of the Commission will be paid by the constituent organizations on a basis proportionate to their representation on the Commission. The budget for the first year of operation has been tentatively set at $70,000. This amount does not include the costs of the hospital inspection service, which will be the responsibility of the individual organizations.

It is anticipated that the Association's role in the accreditation program will be administered through the Council on Medical Education and Hospitals. Additional funds to carry out the program will be required depending largely on the extent of responsibility for hospital inspections which the Council will assume.

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"You and Your A. M. A." Program

The Council on Medical Service proposed to the Board of Trustees that a program having the above title, together with an exhibit, be sent to those state medical associations which desired it. The program would consist of some of the officials of the American Medical Association appearing on a panel with a representative of the state association concerned, the panel to be followed by a question and answer period. A pilot program was authorized for the constituent medical associations in four states, Pennsylvania, Colorado, Virginia and Indiana. The programs differ somewhat but in the main the basic features in all are similar.

These pilot programs were received with such success that it was thought best to put them on in some other states that had requested them. Consequently it was decided by the Board of Trustees in view of the general nature of these programs in which all American Medical Association activities are presented, to adopt the following policy:

> The development of any programs designed to inform the medical profession or the public of the over-all activities of the American Medical Association is a responsibility of the Board of Trustees and will be carried out through the Secretary and General Manager. Suitable arrangements shall be made by the Secretary and General Manager to secure participation by all councils, committees, and departments to assure that their specific programs are properly and adequately presented to both the profession and the public.

The Journal

Following the action of the House of Delegates by which subscription to THE JOURNAL was included in the annual dues of members of the Association, the circulation of THE JOURNAL increased by many thousands. There are now being printed each week more than 168,000 copies. Interest in subscriptions, in addition to those provided for members, is continuing to increase, so that each week there is an addition of as many as four or five hundred names to the mailing list of THE JOURNAL. Study is still being made of possibilities of increasing the foreign circulation, but implementation of the most effective plan has not been made because of the need for additional study of some of the problems, for example, exchange of foreign currencies.

The recommendations developed from the survey of THE JOURNAL which were reported to the House of Delegates at the Cleveland Session in December, 1950, have practically been completed, although it is planned to continue obtaining from the medical profession expressions of opinion concerning the usefulness and general acceptability of the various sections of THE JOURNAL. The costs involved in preparation and printing are increasing, as are other costs, which raises a factor that must be taken into consideration as each issue is prepared. However, in spite of this problem, it is hoped that from time to time the usefulness of THE JOURNAL will be extended as additional needs are demonstrated.

As the names of thousands of members were added to THE JOURNAL mailing list during 1951, there was seen occasionally evidence of failure to supply THE JOURNAL to qualified members as required under the By-Laws of the Association. This was due in part, unfortunately, to the personnel in the Subscription Department being suddenly faced with an unusually large problem. It is believed that by now most of the work associated with the transferring of names is completed and there should be a minimum of cause for complaint because of failure of a member to receive THE JOURNAL.

An increasing amount of Organization material is appearing in THE JOURNAL. It is the hope of the staff of the Editorial Department of THE JOURNAL to use this medium of drawing more attention to the activities of the various councils, bureaus, and committees of the American Medical Association, so that their work may become better known and the information in their files more widely used.

The number of physicians making use of the Queries and Minor Notes department of THE JOURNAL has greatly increased. The increase of inquiries received in 1950 over 1949 was 50%, and the increase in 1951 over 1950 is 15%. No record is kept of the number of telephone inquires received, many of which, however, are answered by mail. Many inquiries can be answered from material in the files of this department. In other instances it is necessary to refer the inquiries to consultants, whose replies are transmitted to the inquiring physician. Some of the questions and answers thus obtained are prepared for publication in THE JOURNAL so that other users of THE JOURNAL can share this information. Of related interest is the sale of Volume III of "Selected Questions and Answers," the body of which is made up of Queries and Minor Notes that have been published in THE JOURNAL in recent years. So far approximately 2,400 copies of this volume have been sold.

The Medical Literature Abstracts department prepares abstracts from medical literature for this section of THE JOURNAL, a section that is very popular with JOURNAL readers. Abstracts of both domestic and foreign medical articles are published. In addition, the Medical Literature Abstracts department prepares abstracts for the *A. M. A. Archives of Industrial Hygiene and Occupational Medicine*. Members of this department also translate letters from some of THE JOURNAL's foreign correspondents and letters in foreign languages that are addressed to other officers of the Association. The Medical and Surgical Newsletters which are distributed by the Department of State in numerous foreign countries are prepared by this department. The latter service, according to available reports, is well received in foreign countries.

The Medical News section of THE JOURNAL indicates a sustained high level of interest during 1951. For the first nine months of this year, in addition to other items the pages carried announcements and programs of 270 society meetings. This is exclusive of information on programs for hospital seminars, medical lectures, and postgraduate courses. Most winter meetings have not been recorded at the time of preparation of this report. During the winter and early spring months of 1951 it was necessary to select and edit news items very carefully to make the best use of available space in THE JOURNAL. A list of international meetings, their dates and general secretaries was added to THE JOURNAL pages last spring. This feature has become increasingly popular. The death pages have recorded an unusually large number of obituaries of prominent physicians, and notices of 10 deaths of physicians in the armed forces have been published.

Special Journals

During the past year a total of 2,072 scientific articles, case reports, and clinical notes were submitted to the special journals. Of this number 1,564 articles were published and 508 rejected. Of the total number of articles submitted 157 were originally submitted to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and later referred to one of the nine special journals.

The annual meeting of the chief editors was held on May 12, 1951, at Association headquarters. At this time material relating to financial status, circulation, advertising, published material and editing style was introduced and discussed by the editors present. Circulation figures for all of the special journals during 1951 compare well with 1950 figures. A slight increase occurred with eight of the journals and a moderate drop in one. A program for increasing circulation of all the journals was recommended and undertaken following the chief editors' meeting of 1950. The campaign for increasing circulation of *A. M. A. Archives of Surgery* through 16,000 advertising letters resulted in the obtaining of approximately 600 new subscriptions. Similar campaigns have been undertaken for *A. M. A. Archives of Internal Medicine* and *A. M. A. American Journal of Diseases of Children* and will be carried out eventually for all the other special journals. A program for increasing advertising income has been under way during 1951. A report from the advertising department indicates that the future of the special journals looks much brighter than it has since 1948. During the first five months of 1951, total income from advertising of all the special journals showed an increase of approximately 20% beyond comparable figures for 1950. It is expected that increased income from circulation and advertising will eventually absorb the present operating deficit.

During 1951, for the benefit of both the subscriber and the author, a firm schedule of publication of all accepted articles in a period of four months or less, has been maintained.

Several changes in physical structure have been made during the past year. These have included newer methods of binding which speed up production and lower production cost, and the enlargement of the printed area of the page which has cut down somewhat on the thickness of the individual numbers without reducing content. The volume index is again included with the June and December number of each volume. This procedure was restored because of mailing difficulties and increased costs of separate mailing of indices.

The special journals have adopted new editorial style changes which are in line with the changes in JOURNAL editorial policy. In the future, style books will be used merely as guides and the author's style will be given preference as long as basic rules of grammatical construction are justified.

During this year progressive changes in several of the journals have included establishment of a new department of editorials in *A. M. A. Archives of Surgery*, a new department of annual reviews and registry of interesting cases in *A. M. A. Archives of Ophthalmology*, a case report section in *A. M. A. Archives of Internal Medicine*, and a section of threshold limit values in *A. M. A. Archives of Industrial Hygiene and Occupational Medicine*. Some increased emphasis has been given to psychiatric papers in *A. M. A. Archives of Neurology and Psychiatry*.

Today's Health

The period covered in this report is from Sept. 1, 1950, through Aug. 31, 1951, and corresponds roughly with the second year of service of the present editor. Progress with relation to the items mentioned in the report for the preceding year are as follows:

The Eastman Research Organization, retained as advisors to the editor by authority of the Board of Trustees proved of definite value in crystalizing and stabilizing the policies of the magazine.

The circulation of *Today's Health* is now frozen (June 5, 1951) at a maximum of 235,000 copies monthly by paper restrictions. Ironically, at this very time, renewal percentages are increasing and it has been necessary for several months to hold over renewals and new orders to the subsequent month to wait for expirations because of inability to put them into effect at once due to the paper shortage.

The change of name from *Hygeia* to *Today's Health* has met with substantial approval, the exception being mainly the professional, the better educated and more intellectual subscribers and the subscribers of long standing who have become attached by habit to the name *Hygeia*.

Advertising revenue for *Today's Health* is slowly but steadily improving and the merchandising plan seems to be beginning to show results. It is too early as yet to make any final statements along this line.

The general financial position of the magazine seems to be slowly improving. It is not yet possible to predict what the operating expense above revenue will be for 1951, but projections available at this time would indicate that it will be somewhere between $100,000 and $125,000 as compared with an adjusted operating expense above revenue of $202,000 for 1950.

It is certain that the status of *Today's Health* as an educational tool through its presence in libraries and schools, in the offices of physicians and dentists and its use by health departments and health agencies establishes it as a factor in the national picture of health education which cannot be ignored. It is significant that no competition has sprung up other than a few digest magazines which are quite different in character and the denominational magazine of the Seven Day Adventists which was established many years ago. That very fact is in itself evidence that *Today's Health* fills a real need and fills it adequately.

CIRCULATION

The circulation of *Today's Health* during the first six months of 1951 showed a slight increase over the preceding six month period. The average net paid circulation per month from January through June, 1951, was 221,284 copies, as compared with an average of 219,965 copies per month from July through December, 1950.

Because there was not sufficient increase in the number of subscribers renewing subscriptions on expiration of the original term, it was necessary to add through direct mail solicitation and agency promotions 76,467 new subscribers in order to maintain the customary monthly average circulation of about 220,000 copies.

Most of the new subscribers to *Today's Health* accepted the special introductory offer of a reduced rate for a trial period of six or eight months. However, about 25 per cent of the new orders were received through the efforts of subscription agents and other organizations, a third of these having been obtained through the work of the Woman's Auxiliary to the American Medical Association. The Auxiliary has been instrumental in promoting the use of *Today's Health* as an integral part of the public relations program of state medical societies, and, in a number of states, copies of the magazine are sent each month to the state and federal legislators as well as to members of the judiciary and boards of education. For the use of the Woman's Auxiliary, special portable exhibits on *Today's Health* have been created for display at annual meetings, state fairs and other large gatherings. Since the first of the year, these exhibits have been used at 30 meetings, attracting an audience estimated at more than 25,000 persons.

During the past school year, *Today's Health* has been used as a supplementary text book in about 70 high schools and colleges throughout the country. In these schools copies were supplied at a pecial bulk rate for quantity orders, so that each pupil could have a copy of the magazine for his own use. To facilitate classroom discussion of the material, the teachers of these classes received each month a list of questions and answers based on articles in the issue.

Through exhibits at national conventions throughout the year, *Today's Health* has been introduced to the leaders of various professional groups. Sample copies of the magazine have been distributed in the last twelve months at the annual and interim sessions of the American Medical Association and at the annual meetings of the American Public Health Association, American Dental Association, National Education Association, American Association of Health, Physical Education and Recreation, American College Health Association, and the American Library Association.

The number of physicians who subscribe to *Today's Health* has remained disappointingly constant for the past several years. Although only about 15 per cent of the practicing physicians in the United States subscribe to *Today's Health*, a survey made some time ago indicated that more than 2,000,000 patients read the magazine each month in their doctor's reception room. If a substantial increase in the number of physician subscribers could

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be achieved, the magazine would be available to patients in many more waiting rooms, thus providing a greatly augmented circle of readers who are vitally interested in the maintenance of good health.

Standard Nomenclature of Diseases and Operations

The 22 committees for the fourth revision of the Standard Nomenclature of Diseases and Operations have completed their work. Editing process is finished and the publication will be available to hospitals on Jan. 2, 1952.

Major changes in the fourth edition are as follows:

1. The title of the third edition, Standard Nomenclature of Disease and Standard Nomenclature of Operations, is now combined as Standard Nomenclature of Diseases and Operations.

2. In order to establish a correlation between "Standard" diagnoses and equivalents of the International Statistical Classification of Diseases, Injuries and Causes of Death, the International equivalents are included parenthetically in the body of the book and an appendix supplied by which code numbers of "Standard" and the "International List" may be properly cross referenced.

3. The Supplementary Terms lists which were previously distributed throughout the several sections in the body of the book are now grouped.

4. The section on Eponyms which appeared in the third edition is now combined with the general index.

5. The Disease index and the Operations index are placed consecutively. Both now appear at the back of the book immediately following the Nomenclature of Operations.

6. Page size has been enlarged to accommodate the increased amount of material without materially augmenting the thickness of the volume.

7. The index is completely revised and direct page references are given to specific entities.

Scientific knowledge of recent years has required many changes in the scientific material presented. In this revision, changes have included a complete revision of the Psychobiologic Unit, the section on Diseases of the Hemic and Lymphatic Systems and the etiologic section on Tumor terminology. Revisions of these sections represent a work of close collaboration between the Standard Nomenclature committees and editors with nomenclature committees of the various national organizations concerned.

The third revision was reviewed thoroughly and approximately 5,800 changes were made which represent additions, deletions or consistency changes. In addition to the work on revision of the Nomenclature, approximately 2,500 queries relative to nomenclature problems have been received and answered during the past year.

In January and June, 1951 standard nomenclature was taught at five day institutes for medical record librarians sponsored jointly by the American Hospital Association and the American Association of Medical Record Librarians. Standard nomenclature classes were also conducted by Mrs. Adaline C. Hayden, Associate Editor of Standard Nomenclature of Diseases and Operations, at meetings in Kentucky, Indiana, Iowa, Mississippi, and Wisconsin.

It is expected that plans for a fifth revision and methods for proper handling of interval nomenclature problems will be considered immediately after release of the fourth edition.

American Medical Directory

The Eighteenth Edition of the American Medical Directory was completed in May, 1950. On previous editions, the average total sale was about 8,000 copies; on the 1950 edition more than 18,500 copies have been sold, and by the time the 1952 edition is available the supply of the 1950 edition no doubt will have been exhausted.

The increase in the volume of sale is attributed to the fact that eight years elapsed between the publication of the Seventeenth, 1942, and the Eighteenth, 1950, edition. During this interval there was also an unprecedented shifting of physician population because of war conditions, stimulating the desire for an up to date directory of physicians. A more normal demand for the 1952 edition is anticipated, and the tentative press run of 10,000 copies will probably satisfy the demand for this edition. A comparison of the sale of the last two editions, indicates the following distribution of copies:

Type of Subscriber	Eighteenth Edition (1950) %	Seventeenth Edition (1942) %
Physicians	54	36
Hospitals, Clinics	18	22
Commercial Organizations	12	18
Insurance Companies	3	6
Libraries	2	2
Federal Agencies	2	4
Medical Schools	2	3
Miscellaneous	7	9
	100%	100%

Although the 1950 edition will be a sell-out, the income derived from the sale of copies will not be sufficient to cover the cost of publication. Income from the Directory Report Service, a supplementary service furnished semimonthly on a subscription and service-fee basis to large mailers of circular material, has helped to defray some of the expense of maintaining the records of the Directory Department. However, because of the demands made on the Department for information concerning physicians, demands made by practically every Council, Bureau, and Department of the Association as well as by other official bodies, commercial and philanthropic organizations, government agencies, and the general public, the income received for the Department's publications cannot cover the costs of operation, especially in view of the increasing cost of clerical help, postage and printing services. It is conservatively estimated that, during an average year, the information section of the Directory Department handles more than 15,000 telephone inquiries and at least 5,200 mail inquiries concerning physicians. In addition approximately 7,000 membership applications are checked annually for the Secretary's Office; in the past nine-month period, license applications for 3,576 physicians have been processed for the Council on Medical Education and Hospitals and 1,029 applications have been checked for five of the examining boards in a medical specialty. The Department routinely verifies data on authors, participants in meetings and conferences, potential advertisers and correspondents for various headquarters' activities.

As is customary after a Directory is printed, the type from the 1950 edition has been saved and, at the end of 1950 and through the first half of 1951, information on the various changes made in the Directory records has been sent to the printer so that necessary revisions and editions could be made in the standing type.

As of Oct. 1, 1951, biographic information on 15,840 new physicians has been added to the Directory records and 82,099 changes of address have been recorded. Of this number, 28,349 were local changes and 48,757 were changes from one city to another. Because of death, 7,035 names of physicians have been deleted.

It had been originally planned to issue the Nineteenth Edition of the Directory in the spring of 1952. The edition has been delayed, however, because of the necessity of correlating the records of the Directory Department with those of the Membership Department concerning the current membership status of physicians as indicated by the reports of the various state medical associations. However, it is hoped that a new Directory will be published and ready for sale late in the fall of 1952.

Library

Work on reorganization of the book collection of the Library has progressed this year. Every item with a publication date prior to 1940 was evaluated in relation to its usefulness to the Library and the headquarters staff. As a result a large number of books were withdrawn as unsuitable for the purpose of maintaining an up-to-date and workable collection. This material was offered to various departments and individuals in the American Medical Association building and then to other libraries. After this elimination of books was completed, the remaining publications were organized into a more logical and convenient arrangement. Recataloging of the entire collection is in progress at present, and rebinding and acquisition of literature in certain fields are in prospect.

The reference service continues to be in demand. The number of package libraries requested showed an increase of about 100 over last year bringing the total to almost 2,150. New borrowers, including members of the Student American Medical Association, frequently asked for this service. Material on cortisone and adrenocorticotropic hormone was in constant demand. Blocking of the stellate ganglion proved a topic of special interest, but as usual the bulk of the requests dealt with such subjects as cardiovascular diseases, gastrointestinal conditions, pregnancy, tumors, diabetes mellitus, multiple sclerosis, the kidney and the liver. The Periodical Lending Service circulated approximately 12,000 journals.

During the year a number of borrowers came in person to consult the files, among them visiting doctors from all parts of the world. Most of the work, however, is handled by letter and by telephone. It is estimated that at least twenty inquiries are answered each day, in addition to the inquiries for package library service. Many of these requests entail a long search which taxes all of the resources of the library.

Indexes to the three current volumes of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION were compiled in the Library as usual. For almost thirty years a cumulated file of cards from these indexes has been maintained. It was decided to close this file with the year 1950, and start a new cumulation which will make the recent material more accessible.

During the year card files of periodicals, arranged by country and by subject respectively, have been organized to aid in answering frequent inquiries. Under the direction of the Editor of THE JOURNAL, a complete survey of all exchanges with THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION was made, and an information file on national medical societies throughout the world and their publications is in preparation.

Quarterly Cumulative Index Medicus

Two volumes of the Quarterly Cumulative Index Medicus have been issued this year: Vol. 46 (July-December 1949) was completed in February, and Vol. 47 (January-June 1950) appeared at the end of August. The new format used in the former caused a number of favorable comments especially regarding legibility; and the slight reduction in size of print for Vol. 47 to reduce the bulk of the book has not affected this feature noticeably.

This latest volume listed 32,171 articles, an increase of 4,605 over volume 46. Approximately one half of these were from foreign language periodicals with about 5,000 in German and 3,900 in French. Italian and Spanish journals accounted for more than 2,300 articles each.

The final processing of copy for Vol. 48 (July-December 1950) is completed, and most of the material has been typed. This issue should be mailed to subscribers early in 1952. Practically all of the cards for the next volume are in file. All English language periodicals are processed currently as soon as they come in, and many foreign language publications receive prompt handling. The card files covering unpublished material are in constant use for reference work both by the Library staff and by visitors to whom they are made available.

Unfortunately this year has brought little improvement in the production schedule of the Index. Every effort has been made to recruit personnel with training and experience in this field without success, so a long period of on-the-job training still continues to handicap the work. However, some gains have been made during the year, and a constant search for likely candidates is maintained.

Report of the State Journal Advertising Bureau

The State Journal Advertising Bureau, formerly known as the Cooperative Medical Advertising Bureau, continues to assist its present membership of 34 state medical journals, representing 39 constituent medical associations, in securing advertising space sales and in servicing accounts by handling most of the details for the convenience of the journal offices.

Through its monthly bulletin, the Bureau offers helpful suggestions as well as current listings of products accepted by the Councils on Pharmacy and Chemistry, Physical Medicine and Rehabilitation and Foods and Nutrition and the Committee on Cosmetics. Acceptance of many products opens up an avenue of further prospects for the journals, all of which follow standards of advertising adopted for the publications of the American Medical Association. It is therefore hoped to maintain present sales in subsequent years and even to increase them. During the past six years, 1946 through 1951, the net sales have exceeded $3,639,000.00 representing gross sales exceeding $4,000,000.00 or an average of $666,666.00 per year. For 1951 alone, the gross sales exceed $724,000.00.

The Bureau, operating under the auspices of the Board of Trustees of the American Medical Association, functions in behalf of the State Journal Group, and all revenue is transmitted to the member journals, less operational costs which amount to approximately six per cent. The Bureau is governed by the Advisory Committee, which is composed of Drs. Stanley B. Weld, Connecticut, Chairman; Julian P. Price, South Carolina; Carl B. Drake, Minnesota; Walter E. Vest, West Virginia, and L. Fernald Foster, Michigan. Ex officio members of the Advisory Committee are Drs. George F. Lull, Austin Smith and Robert T. Stormont and Mr. Alfred J. Jackson, Director of the Bureau.

Council on Rural Health

Believing that it would assist the Committee on Rural Health in its relations with organizations concerned with rural matters, the Board of Trustees has decided to change the status of the Committee to that of a Council of the Board of Trustees. This action of the Board was taken after the annual report of the Committee on Rural Health was prepared, for which reason the Committee's new status is not mentioned therein.

Report of the Committee on Rural Health

The annual Conference on Rural Health, held annually for the past six years, have served to mould public opinion and crystallize thinking about rural health problems. Each succeeding conference has brought the problem nearer solution. The association of rural citizens, physicians, professional health workers, extension services of Land-Grant colleges, and editors of agricultural journals has brought to the study a cross-section of rural and professional leaders not obtainable elsewhere. Mutual confidence has grown with the passing years, flowering into a set of objectives useful in state and community health planning.

There are many groups and agencies interested, and with limited programs, in community health, such as tuberculosis, poliomyelitis, and cancer. Much that the Agricultural Extension Service of the Land-Grant Colleges do pertains to health directly or indirectly. In a number of states and in many communities these programs are being brought together by the local leaders as a result of their attendance at the national rural health conferences. The ideal would be to bring all these groups together into an organization often referred to as a health council, which affords an opportunity for each to learn what the other is doing and how each can complement the other.

It is often found advisable that at the beginning only a few of these groups be brought together. As they have become accustomed to working together and obtaining a full understanding of what their respective functions are, they can from time to time bring in additional groups.

In this connection it is urged that the medical profession come in at the very beginning of such an effort. In many lay groups during the last fifteen months, it has been urged that no steps be taken to begin a council until at least one physician has become sufficiently interested to give it attention, guidance and leadership. This recommendation imposes a serious responsibility on physicians. They must be willing to participate actively. Their passive blessing alone is not enough. While it is not necessary that doctors take the initiative or be in the forefront, initiative on their part is desirable. Above all else, their active participation is imperative if sound medical principles are to be followed.

Because rural people have generally felt that ther chief health problem is getting a doctor in the village, it is necessary to emphasize the fact that this is only one of several problems they have; it is not necessarily the most important one.

To understand the problem of rural health, attention must be called to the difference between health and medical care. Health is a personal and community responsibility, entirely separate and apart from medical care. If the individual does not understand or neglects his responsibility in this respect, it will be impossible

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to have enough doctors, nurses or hospitals to assure good health. It is the individual who must see to it that his family is provided proper diets, live in sanitary and safe surroundings, and utilizes the skill of physicians in immunizing themselves against the preventable diseases. In a free enterprise society the physician is helpless unless the public is educated to these facts. The task of educating people is a long process and should be so recognized by all who are interested in the problem.

The local health council affords the best channel to teach health rules to the citizen. Therefore, it is essential that the doctors come in at the beginning of council organization and assist the lay groups in developing the kinds of educational programs that will help them to understand their personal and community responsibility in health and its relationship to good medical care. It is recommended that the American Medical Association set up a long time program in this field. The program should be broad and flexible to fit any community and aimed at getting the cooperation of the organizations now working in rural educational work. The last fifteen months of work have clearly shown that nearly all of these agencies and organizations are eager to do something, but that they have not clearly understood what they can or should do. They need a community clearing house for activities.

Another challenging opportunity is for the lay groups and the medical profession to clarify in the minds of the rural lay public the difference between the cost of medical care and the cost of illness. A rural family which receives a bill for hospital and other services is inclined to charge the whole matter to the doctor. Since hospital costs are rising sharply, this is of growing importance. The cost of the service rendered by the doctor is confused with the other costs incident to illness. Any program outlined by the American Medical Association should include this phase of education. The whole field of prepayment insurance should be emphasized along with careful study of the number, size, and location of hospitals. Farm people are more difficult to reach with prepayment programs, because they do not work in groups as factory or store employees. They are a greater burden to the insurance carrier because they have a greater backlog of untreated pathology, they do not carry industrial insurance for the large incidence of accidental injury, nor are the workers screened for physical deficiencies at the beginning of employment. A higher premium rate is acceptable to rural people when these factors are properly presented to them.

In the case of size, number, and location of hospitals, maintenance costs and overhead on these institutions needs to be understood. Costly mistakes have been made in some of the areas of the country, and this experience must be available in further planning.

In all of the 33 states visited this past year, much good work is going on, but in all of them, many problems exist.

It is suggested that consideration be given to the following points:

1. That a long-time, flexible program be outlined by the national Committee on Rural Health and be assured support by the American Medical Association.

2. That the national Committee's policy of holding annual rural health conferences be continued.

3. That local physicians and county medical societies take initiative and leadership in lay efforts to improve rural health.

4. That rural people and their institutions be helped to understand the difference between health and medical care and the relationship of the two, and furthermore that they understand where the responsibilities for each rests.

5. That the factors of nutrition, environmental sanitation, and immunization be fully appreciated as under-girding supports to a good health program.

6. That the lay groups be helped in their understanding of a community's relationship to the doctor. (In turn, his relationship and responsibility to the community should be made clear at some point in his training and development. Such things as how to get a doctor, determining where one is needed and how to keep him are exceedingly important and are of mutual concern to lay people and the medical profession.)

7. That rural people understand more of the cost and maintenance of hospitals. (The use of modern drugs, the antibiotics, early ambulation, improved roads and transportation and other factors must be taken into consideration, as well as the size of area or number of people to be served.)

8. That prepayment insurance programs for rural people be carefully studied and promoted.

9. That rural people be helped to understand the difference between the cost of medical care and the cost of illness.

Among the states holding rural health conferences are Arkansas, Idaho, Indiana, Michigan, Missouri, Montana, North Carolina, North Dakota, Ohio, Virginia, West Virginia, and Wisconsin.

In a few states new and active rural health committees have been formed and have followed precedence by including farmers and health educators, as well as physicians. State medical association rural health committees have cooperated with Farm Bureaus and their affiliate, the Associated Women, in active participation in the program of the Committee on Rural Health. This cooperation with the Grange is also true in some states. In Pennsylvania, Oregon, Washington, and Connecticut, new state health councils of this type have been formed. Several states have assembled rural health exhibits for display at state and county fairs, which have proved most successful.

Committee members have made personal contacts with agricultural extension personnel, farm organizations, medical societies, women's auxiliaries, civic organizations, and community groups throughout the country. This includes attendance at a number of state rural health conferences.

During the year approximately 29,000 pieces of literature have been sent out from the headquarters office.

As a result of these contacts, there is a better understanding and cooperation between all the organizations working in the rural health field. This should accelerate the solution of these problems and result in improved health, both urban and rural.

Report of the Washington Office

During the past year the relations of the Washington Office with members of Congress and representatives of the federal bureaus were definitely more intimate and more productive. Because Congress was concerned primarily with emergency legislation and major bills, not many occasions arose for participation of state medical society representatives in dealings with Congress.

The Eighty-Second Congress is still in its first session at this writing but is expected to adjourn in a few days. In January the same lawmakers will be back at the same desks with, generally the same ideas about medical legislation, and waiting for them will be the same bills resting at whatever point they happened to have reached in the legislative process.

GENERAL SERVICES

As in the past, the Washington Office continued to function as an information clearing house, serving Congress and the federal agencies as well as the Association's officers and members. Representatives of the Association testifying before Congressional committees were oriented and advised by the office staff prior to and during their appearance on Capitol Hill. Ten American Medical Association witnesses testified during the year, and the Association filed statements on several other occasions. Almost 8,000 copies of bills were mailed out to interested members, including the members of the Board of Trustees and others who had made inquiries. About 800 other government documents, including committee reports, were mailed on request. It is encouraging to know that more and more physicians are interested enough in what goes on in government to dig through these long documents. In addition many thousands of pieces of literature on the National Education Campaign were sent out in answer to inquiries. Contact was maintained with private associations and agencies to enlist support for the Association on legislation, and speakers were furnished for professional and lay groups.

The office maintained a close liaison with the military departments, the Federal Security Agency, the Veterans Administration and other federal departments to exchange ideas on pending

legislation and to interpret correctly proposed and existing regulations. The same relationship was maintained with professional and nonprofessional organizations in the health fields. On request, individual Senators, Congressmen and others were supplied material for speeches, interviews, discussions and questions. This service was not restricted to supporters of the Association's policies.

PUBLICATIONS

During the past year Washington medical news took on special significance. The national emergency resulted in the creation of several new agencies and the expansion of established agencies and departments. Addition of another staff member allowed the Washington Office to keep track of these developments without neglecting its primary function of reporting on legislation.

Office publications are devoted to news reporting, not propaganda. Two publications are issued weekly, the *Bulletin*, devoted to reporting and analyzing legislation, and *Capitol Clinic*, which covers all other medical developments in Washington as well as legislative news not carried in the *Bulletin*. *Comments*, complementary to the *Bulletin*, is issued irregularly and furnishes special analyses of the more important bills, testimony given by American Medical Association witnesses and action of the Board of Trustees. Five Special Bulletins highlighted particular situations. These were on the National Cancer Institute, the United States Children's Bureau, federal financial participation in public health programs, presumption of service-connected disability by veterans and federal aid to medical education. In addition 20 or more shorter special reports were prepared and mailed out as part of *Capitol Clinic* or the *Bulletin*. Those carried in the *Bulletin* included a digest of the Humphrey subcommittee report on the Veterans Administration Medical Department, a study of legislation for tax relief of professional groups to facilitate purchase of retirement insurance, a breakdown of health items in Federal Security appropriations and a complete analysis of the law increasing pensions for veterans with non-service-connected disabilities. This special coverage in *Capitol Clinic* included a digest of the Dr. Dean Clark report to the Senate on voluntary health insurance, a complete report on Oscar Ewing's proposal for hospitalization at age 65, an analysis of the Surgeon General's Committee's report on federal research grants to medical schools and digests of progressive developments in doctor draft regulations.

All this material is without copyright. Many state and local medical journals reprint part of it regularly, crediting the Washington Office as the source.

The above publications are sent to a single mailing list which now totals 5,000. Every name now on the list is there because the person asked to be put or to be kept there. During the summer the list was screened. After a two-week warning, the names of all those who had not replied by card that they wanted the service and were in a position to make good use of it were removed.

Included on the list are state medical association officers, American Medical Association officers, Association headquarters staff members, some Senators and Representatives and government officials. The staff also writes the Washington news section of THE JOURNAL and, in September, prepared a comprehensive article on enforcement of federal narcotic laws for THE JOURNAL. The office also prepares a weekly summary of new federal legislation for THE JOURNAL.

LEGISLATION

Every bill introduced in Congress is screened, and those with medical implications are followed in their step by step progress. So far in this Congress 183 bills were checked and reported to the profession. Most important of these provided for federal aid to medical, nursing and dental education, federal aid to local public health units, medical programs for veterans; investigation of voluntary health insurance; defense; housing and community facilities bill; including hospitals tax deductions for health insurance payments, proposals to give tax relief to professional groups for purchase of retirement insurance; universal military training and selective service amendments, and armed forces medical care. Following is the status, as of October 1, of legislation of primary concern to the medical profession:

Federal Aid to Medical and Nursing Education.—S. 337, awaiting action in the Senate, has been called numerous times on the unanimous consent calendar but has been passed over each time. In September the committee rewrote the payment schedule, reducing in amount the basic payments and greatly increasing incentive payments for new students. The changes are in the form of a committee amendment and will be considered when the bill is taken up. No hearings have been scheduled on a companion bill in the House. However, H. R. 910, for aid to nursing education only, was the subject of a House hearing.

Prescription Drug Bill.—H. R. 3298, authorizing oral prescriptions and refills, passed the House after elimination of a provision giving the Federal Security Administrator broad powers to determine prescription drugs. S. 1186 still containing this grant of power to the Federal Security Agency administrator, was the subject of Senate hearings in September.

Defense Housing and Community Facilities.—Now Public Law 139 provides for federal loans and grants to stimulate construction of housing and community facilities, including hospitals, in critical, crowded defense areas. Following objection by the American Medical Association and other groups, some safeguards were inserted as a protection against federal control.

Tax Deductions for Voluntary Health Insurance.—Several bills are pending but no hearings. However, Senator Ecton proposed an amendment to the tax bill which would allow deduction of health insurance premiums and most other medical expenses from taxable income. Now only that portion of medical expenses that exceeds five per cent of taxable income may be deducted. The American Medical Association strongly supported the amendment, but it was defeated on the Senate Floor.

Ives Proposal to Allow Professional Persons to Deduct Annuity Premiums from Taxable Income.—This failed to pass, but the American Medical Association and the American Bar Association had the opportunity to do considerable educational work on the Congress, impressing members with the justice of such a plan. The committee has agreed to study the proposal more fully.

Local Public Health Units Bill.—Without hearings, the committee reported out and the Senate passed S. 445, for federal grants to local public health departments. The House Interstate and Foreign Commerce Committee held hearings, at which the American Medical Association supported the companion bill, H. R. 274, providing certain amendments were made. This committee has taken no further action.

School Health Bills.—Five bills were offered in the House but none in the Senate, and there was no action.

EMIC.—One Senate bill, S. 1245, and two House bills, H. R. 3349 and H. R. 4176, provide federal grants for medical care for wives and infants of servicemen. There was no action, but the Senate Health Subcommittee has said it will hold hearings. The Children's Bureau of the Federal Security Agency is actively promoting this legislation.

National Compulsory Health Insurance.—Two bills are pending in the House, H. R. 27 and H. R. 54, which follow the original Wagner-Murray-Dingell pattern, but none in the Senate. No hearings have been held or scheduled. There are a number of other bills to facilitate voluntary health insurance, the most recent being S. 2171, introduced by Senators Hill and Aiken.

Unless enacted before the recess, all of these bills will be awaiting Congress when it returns after January 1. The Washington Office will watch them and report their progress or lack of progress through the Congress.

Government departments, old and new, are experiencing the urge for expansion, attributed to the emergency. Not many were badly burt by appropriation cuts. Old and new, the departments and agencies are embarking on new activities, many of which are of direct or indirect importance in the medical picture.

A large part of the program of the Washington Office for next year will be pointed toward keeping abreast of developments and reporting them as rapidly and as accurately as possible. To help in this, it is proposed to install a news ticker machine, which will give up-to-the-minute leads.

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Report of Committee on Legislation

The Committee on Legislation, organzed in January, 1950, extended its activities during the period covered by this report, Oct. 1, 1950, to Sept. 30, 1951, in order to fulfill more effectively the purposes for which it was created. These purposes, as outlined at the first meeting of the Committee, are: (1) to streamline legislative action so as to get faster and more effective results in Washington; (2) to study and report on legislation introduced; (3) to maintain knowledge of the current status of and take suitable action on bills previously introduced; (4) to assure the dissemination of information to local and state medical societies with respect to current legislation and actions recommended; and (5) to recommend the names of physicians for the presentation of testimony to congressional committees.

During the period in question the Committee has had five meetings, has analyzed 129 legislative proposals, and has recommended policy positions on 110 of these proposals to the Board of Trustees.

It is apparent from the above figures that there has been an increasing number of bills introduced in the Congress which are of interest to and which affect the medical profession. The Committee, by virtue of frequent meetings, many hours of deliberation and the cooperation of the Washington Office and the Bureau of Legal Medicine and Legislation, has been able to formulate recommended positions on these measures and to determine which of the bills require the active support or opposition of the American Medical Association.

Following is a list of the bills on which either oral or written statements were presented, together with the names of the witnesses:

82D CONGRESS

S. 1, amended (War Manpower bill):

Statement of Dr. Stockton Kimball, Chairman, Joint Committee on Medical Education in Time of National Emergency—Jan. 30, 1951.

Testimony of Dr. George F. Lull on Section 23—Jan. 30, 1951.

S. 349 (H. R. 1272) (Defense Housing and Community Facilities and Services Act of 1951):

Statement of Dr. W. B. Martin before the Senate and House Committees on Bankng and Currency—Feb. 7, 1951.

S. 1328 (Survey of Sickness):

Written statement by American Medical Association to the Subcommittee on Health of the Senate Labor and Public Welfare Committee—Aug. 23, 1951.

H. R. 274 (Local Public Health Unit bill):

Statement submitted on behalf of the American Medical Association by Dr. Gunnar Gundersen to the Committee on Interstate and Foreign Commerce, House of Representatives—April 11, 1951.

H. R. 348 (Barbiturate bill):

Written statement by American Medical Association to the Committee on Ways and Means of the House of Representatives—April 12, 1951.

H. R. 910 (Nursing Education Act of 1951):

Statement of Dr. W. B. Martin on behalf of the American Medical Association before the Interstate and Foreign Commerce Committee of the House of Representatives —Sept. 13, 1951.

H. R. 3298 (S. 1186) (Drug bill):

Statement of Dr. W. B. Martin before a subcommittee of the Senate Committee on Labor and Public Welfare—Sept. 11, 1951.

H. R. 4528 (H. R. 4675) (Transportation of Fireworks):

Written statement by American Medical Association to the Committee on the Judiciary of the House of Representatives—Sept. 19, 1951.

In an effort to arrive at the soundest possible position on legislation and in order to utilize available technical advice and guidance to the fullest extent, the Committee has initiated the procedure of referring new legislation to each interested council, bureau or department of the Association. It is intended that written and oral comments will be presented by them to the Committee on Legislation as such bills are considered.

The Committee has establshed liaison with the committees on legislation of the state and territorial medical associations in an effort to obtain their support and to furnish them with up-to-date information regarding national legislation and the position of the Association with respect thereto. In order to facilitate the dissemination of this information, a monthly legislative review is being prepared and distributed by the Committee, showing the bills introduced each month, the interested council, bureau or department of the Association, previous similar or identical bills introduced and the position adopted by the Association on such earlier proposals. An arrangement has also been made to publish in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION after each meeting of the Committee on Legislation the actions of the Committee on specific bills, as approved by the Board of Trustees.

Report of the Committee on Medicolegal Problems

The Committee on Medicolegal Problems was created by the Board of Trustees at its meeting held on May 28, 1950. This is the second report on the activities of the committee, the first having been incorporated in the Report of the Bureau of Legal Medicine and Legislation, the Director of which is Secretary of the committee.

When the committee was formed it was intended that its membership should be sufficiently diversified in expertness and interests as to constitute an effective agency for dealing with a wide variety of medicolegal problems. It was felt that the existence of a single broadly representative committee of this kind, empowered to appoint special ad hoc subcommittees and to designate special consultants to assist it, would make the existence of a separate standing committee for each different kind of medicolegal problem unnecessary. Thus, as new medicolegal problems arise they may be referred to this committee, which will either deal with them directly or will seek the advice of special subcommittees or consultants in order to prepare its reports and recommendations. Two new members were added to the committee during the past year, one an expert in psychiatry and the other in pathology, to enable the committee to make certain needed expansions in its activities.

The committee found that each of the following subjects deserves a fact-finding survey and the initiation of an active program for improving the manner in which medical knowledge and skill are utilized in the administration of justice:—

1. The cause and prevention of allegations of medical malpractice.
2. The scientific and medicolegal status of tests for the recognition of alcoholic intoxication.
3. The scientific and medicolegal status of blood tests in disputed paternity cases.
4. The teaching of legal medicine and medical jurisprudence in medical schools.
5. The status of the coroner system and the medical examiner sytem in the United States.

During the year the committee held two meetings at which the chairmen of the various subcommittees reported progress in the discharge of their assignments.

Subcommittee on the Cause and Prevention of Allegations of Medical Malpractice.—A report entitled "Malpractice and the Physician" was prepared by the chairman of this subcommittee, approved by the full committee, and published in THE JOURNAL for September 1. The reception of this report has been most gratifying. Within three weeks after its publication, requests were received for approximately 5,000 reprints. An exhibit on the subject has been made available by the committee for use by constituent associations and was presented recently at a meeting of the Connecticut State Medical Society where it was well received. It will be presented at the Los Angeles meeting of the Association.

Subcommittee on the Scientific and Medicolegal Status of Tests for Alcoholic Intoxication.—The chairmen of this subcommittee reports that work has been commenced on the preparation of a comprehensive report dealing with the status of

scientific tests to determine intoxication. The subcommittee has been collaborating with representatives of the National Research Council in the preparation of an exhibit on this subject for the forthcoming clinical meeting of the Association in Los Angeles.

Subcommittee on the Scientific and Medicolegal Status of Blood Tests in Disputed Paternity Cases.—This subcommittee has been exceedingly active during the past year and after a great deal of work and consultation with experts in many countries, has prepared a preliminary report which was discussed at a special meeting of the subcommittee and its consultants, held in New York on Sept. 16, 1951. The report is presently being prepared for submission to the full committee with a view to early publication.

Subcommittee on the Teaching of Legal Medicine and Medical Jurisprudence in Medical Schools.—The committee will endeavor to exert its influence in behalf of better teaching programs in legal medicine in medical schools. To that end, the subcommittee on Education is making a study of the courses now being given with the hope that a uniform course in legal medicine and medical jurisprudence may be developed.

Subcommittee on the Status of the Coroner System and the Medical Examiner System in the United States.—Consideration is being given to the preparation of an exhibit, possibly in the form of a motion picture, that will stress the need for medical knowledge in the acquisition and utilization of evidence for the administration of justice.

The committee has purchased 1,000 copies of a brochure entitled "A Model State Medicolegal Investigative System" which will be distributed to constituent associations and others to stimulate interest in the betterment of medicolegal work in obscure causes of death. This brochure was cosponsored by the American Medical Association, the Criminal Law Section of the American Bar Association, American Judicature Society, American Academy of Forensic Sciences, National Civil Service League and National Municipal League.

A member of the subcommittee, by request, attended and participated in a meeting of the National Coroners Convention in Los Angeles in August of this year for the purpose of bringing to the attention of the coroners the need of more effective medical participation in the work of that office. He presented a paper on the "Importance of Collateral Physical Evidence in the Interpretation of Anatomic Findings," using kodachrome® sequences of the investigation of several homicides including a number of scenes of death as well as photographic evidence of wounds and autopsy procedures. The paper stressed the importance of having the medicolegal pathologist present at the scene of a crime in some cases in order that he may correctly interpret subsequent anatomic findings elicited at autopsy.

Report of the Council on Pharmacy and Chemistry

The Council on Pharmacy and Chemistry has continued to provide a valuable service to the medical profession through its program of critical evaluation of the therapeutic agents. New drugs are being introduced at an ever increasing rate, and the average physician has neither the time nor the facilities to conduct the necessary experiments with these medicinal agents in order to determine their true value, hazards and limitations. One must recognize that there is a calculated risk involved in prescribing or administering many of these extremely potent new drugs. Thus, the practicing physician desires information on which he can rely to aid him in practicing modern rational therapeutics and serve the best interests of his patients. The efforts of the Council to provide this authoritative information are being appreciated to an ever increasing extent.

EVALUATION OF DRUGS FOR ACCEPTANCE

Pharmaceutical firms have been encouraged to submit new drugs for consideration, and the Council office has made every effort to expedite the drug acceptance procedure in order to keep pace with the rapid advances being made in therapeutics.

The assistance provided by many expert consultants in the various fields of therapeutics has been most valuable to the Council members in their deliberations concerning new drugs and methods of therapy. Often this has lessened the time required for the acceptance procedure. Not infrequently consultants have provided the necessary convincing arguments to resolve a question pertaining to a therapeutic claim.

The Council office has encouraged drug manufacturers to collaborate in the selection of acceptable names for their new drugs. Many firms request advice regarding the suitability of proposed generic and protected names for products which are still undergoing the necessary study and investigation prior to marketing. The increasing cooperation of pharmaceutical concerns in this regard is deeply appreciated.

Since the annual report was made last year, 155 presentations of drug products were submitted. Of this number 27 represented distinctly new therapeutic agents. In addition to these presentations the Council gave consideration to a number of others which were held over from the previous year for a number of reasons. Although the total number of presentations was less than for the previous year, many of the new drugs submitted were of a distinctly unique nature or represented very important additions to the physician's armamentarium.

PUBLICATIONS AND REPORTS

New and Nonofficial Remedies, an annual publication of the Council, appeared in July of this year. Arrangements have been made to achieve an earlier publication date next year. N. N. R. contains information on the actions, usage and dosage of drugs which have been accepted by the Council. It is widely recognized as a standard of reference for nonofficial drugs. New and Nonofficial Remedies as well as "Useful Drugs" and the "Epitome of the U. S. P. and N. F." are prepared by the Council with the editorial assistance of the Committee on Publications. "Useful Drugs" provides concise information on important and widely used therapeutic agents. The forthcoming edition which is nearing completion, has been revised considerably during the past year. A number of medicinal agents the usefulness of which has been supplanted by new drugs will not appear in the new edition. However, it will contain pertinent information on approximately 150 new drugs.

"Fundamentals of Anesthesia" and "Glandular Physiology and Therapy" are two books sponsored by the Council. Considerable progress has been made in the preparation of these texts for publication. Both books should be ready for publication in 1952.

A number of reports were adopted during the year by the Council for publication in THE JOURNAL. These included reports received from Committees of the Council as well as those submitted by investigators whose work was either encouraged or sponsored by the Council.

The editorial staff of the Council office also rendered assistance to the Council on Physical Medicine and Rehabilitation, the Council on Foods and Nutrition and the Bureau of Investigation in the preparation of reports for publication.

COMMITTEE ON PESTICIDES

The Committee on Pesticides was established on January 1, 1950 as a standing committee of the Council on Pharmacy and Chemistry to study the health problem of pesticides. During the past year it has continued to expand both the educational and investigative phases of its program. A series of scientific reports on the medical aspects of pesticides, which began with the publication of the committee report on "The Pharmacology and Toxicology of Certain Organic Phosphorous Insecticides," has appeared in THE JOURNAL. Reprints of these reports have been sent to numerous individuals and groups interested in the public health aspects of "economic poisons." Abstracts of the reports were also sent to newspapers as well as to agricultural, chemical, and drug trade journals. These reports have been reproduced in part or in full in a variety of English language publications and have been translated into Spanish for distribution to public health workers in Mexico.

The committee will continue to keep the medical profession informed on health problems associated with the use of the many newly introduced pesticides. To augment a direct information service for inquiring physicians, the committee initiated a program of collaboration with various regulatory agencies, scientific groups and trade associations prominent in the pesticide field for the exchange and dissemination of accurate information.

The investigative phase of the committee's activity during the past year has been directed towards a continuation of studies

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on the development of safety standards for use of pesticides, the evaluation of remedial measures and the standardization of nomenclature.

During the past year the committee made arrangements to evaluate a possible new antidote for a pesticidal chemical which is widely used in agriculture. It also appointed subcommittees on nomenclature and on the development of a poisoning reporting system. The subcommittee on the nomenclature has assisted the federal government's Interdepartmental Committee on Pest Control in the selection of generic names for pesticides. It has also provided liaison between the Council on Pharmacy and Chemistry and other interested groups on those items which involve both drug and pesticide nomenclature. The subcommittee on the development of a poisoning reporting system developed a preliminary notification form for the initial exchange of information on pesticide poisonings. This form is being used to integrate data by providing a means for the immediate follow-up and evaluation of poisoning cases by those groups which have the facilities to conduct such inquiries.

MEETINGS

The Council holds an annual meeting to discuss or review important problems in therapeutics, to consider modifications and extension of its activities and procedures, and to receive reports from its various standing committees. During the meeting last year considerable time was devoted to considerations involving revision of the Council rules. The regular activities of the Council, including such matters as the consideration of products, publications and reports, are conducted by means of a biweekly bulletin.

CORRESPONDENCE

Several thousand inquiries pertaining to drugs and therapeutics are answered by the Council office each year. Most of these inquiries come from practicing physicians. The remainder are received from persons or organizations interested in securing information relating to particular drugs and therapeutic procedures. This service is further augmented by numerous telephone inquiries answered directly by professional personnel in the Council office. The bulk of the correspondence is associated with activities related to the drug acceptance program and to the various publications issued or sponsored by the Council.

COLLABORATION

The Council endeavors to collaborate with other groups and organizations on problems of mutual concern or interest. An exchange of valuable technical information is facilitated through liaison with other organizations and scientific groups. Every effort has been made to provide informative responses to inquiries from the World Medical Association on matters relating to drugs and therapeutics.

Information is regularly exchanged between the Council and the revision committees of the U. S. Pharmacopeia and National Formulary, the Federal Food and Drug Administration and the U. S. Public Health Service. Not infrequently information relating to the nomenclature as well as the tests and standards for new medicinal agents is exchanged with groups or agencies in foreign countries.

EXHIBITS

The Council office occasionally assists in the preparation of scientific exhibits on subjects pertaining to the diagnosis, prevention or treatment of disease through the use of medicinal agents. A pictorial means of disseminating authoritative information pertaining to therapeutics is often most useful. An exhibit portraying the useful services which the Council provides for the medical profession has been prepared and is now being shown at various meetings.

COMMITTEE ON RESEARCH

The Committee on Research, as a standing committee of the Council on Pharmacy and Chemistry, has engaged in activities which may be conveniently divided into four spheres: (1) investigations under committee contracts; (2) cooperative investigations; (3) educational and informational services, and (4) grants-in-aid.

Investigations Under Committee Contracts.—During the past year, investigations on the khellol alkaloids have been completed and a final report submitted. The investigation of buffered and adjusted ophthalmic solutions should be completed before the end of the current year. Contracts are about to be signed between fourteen firms and an investigator for a study of the newer anticoagulant drugs and a search for a more satisfactory method for standardization of thromboplastin. Approved for committee sponsorship is a study of the effect of early feeding of meat proteins upon the growth and development of infants.

Cooperative Investigations.—For the past three and one half years the Subcommittee on Steroids and Cancer has been integrating the efforts of 45 centers in a study on the influence of steroid hormones on cancer of the breast, bladder, ovary, uterus, and bone. This year 48 investigators attended a biennial meeting of the subcommittee on April 23 and 24. This cooperative program has been so successful that the Committee on Research has recently approved an extension of the activity of the Subcommittee on Steroids and Cancer to embrace problems relative to the use of steroid hormones and allied substances in metabolic diseases, sterility and pregnancy wastage. Fifteen pharmaceutical firms are supporting this cooperative investigation.

Educational and Informational Projects.—Under the direction of the Committee on Research, a status report on Krebiozen was prepared and sent to the Council on Pharmacy and Chemistry for publication in THE JOURNAL. Articles on Roentgen and Steroid Hormone Therapy in Mammary Cancer Metastatic to Bone and Current Status of Hormone Therapy of Advanced Mammary Cancer were published in THE JOURNAL Nov. 18, 1950, and June 2, 1951, respectively.

Grants-in-Aid.—As the successor to the Therapeutic Research Committee, the Subcommittee on Grants-in-Aid of the Committee on Research has approved the following grants since Jan. 1, 1951; in some cases an unexpended balance remains or the work is not yet completed. These grants were made by the Therapeutic Research Committee. They are listed after the grants issued for the current year.

Grant 2: Percival Bailey, University of Illinois, to investigate stereotaxic apparatus for use on human brains, $500.

Grant 3: Sumner Kalman, Stanford University School of Medicine, to investigate the prolongation of inhibitory effects of steroids on neoplasms, $200.

Grant 4: Charles D. Hendley, Tulane University School of Medicine, to investigate the mechanism whereby circulatory changes affect visual functions, usefulness of visual tests in diagnosis of cardiovascular disorders, and evaluation of effectiveness of therapeutic procedures, $500.

Grant 5: Joseph R. DiPalma, The Hahnemann Medical College and Hospital, to compare the effects of various compounds against quinidine for anti-fibrillatory potency to determine if an effective substitute for quinidine can be found, $200.

Grant 6: Theodore Koppanyi, Georgetown University School of Medicine, to evaluate the effects of intravenous injections of cholinesterases, $400.

Grant 7: Robert S. Litwak, Boston University School of Medicine, to investigate an experimental approach to stenotic lesions of the semilunar valves and their homograft replacement, $500.

Grant 8: James C. Rice, University of Mississippi School of Medicine, to determine the effect of sodium ferricyanide as an antagonist to the action of certain musculotropic poisons, $250.

Grant 9: Miriam E. Simpson and Gertrude Van Wagenen, University of California School of Medicine and Yale University School of Medicine, to study the pituitary gonadotropins in the Rhesus monkey (Macaca Mulatta), $500.

Grant 10: Clinton H. Thienes, University of Southern California School of Medicine, to study the effect of nicotine on the metabolism of the brain, $500.

Grant 11: Harold C. Wiggers, Union University, Albany Medical College, to investigate the production and study of mitral stenosis and/or insufficiency by insertion of substitute plastic valves in dog hearts, $500.

Grant 12: Alan D. Bass and Henry DiStefano, State University of New York Medical College at Syracuse, to investigate alterations in tissue nucleoprotein patterns following administration of therapeutic agents (e.g. morphine, insulin, colchicine), $200.

Grant 13: Edward L. Corey, University of Virginia School of Medicine, the electromyographic study of the human urinary bladder, $400.

Grant 14: T. S. Danowski, University of Pittsburgh School of Medicine, the exploration of the mechanical characteristics and the clinical utility of the Alwall type artificial kidney, $400.

Grant 15: Andres Goth, Southwestern Medical School of the University of Texas, the experimental re-evaluation of analeptics in the treatment of barbiturate intoxication, $400.

Grant 16: A. Clark Griffin, Stanford University School of Medicine, to investigate the alleviation of the symptoms of nitrogen mustards by cysteine and thiourea, $400.

Grant 17: Keith S. Grimson, Duke University School of Medicine, to investigate the treatment of aneurysms of the aorta, $400

Grant 18: Howard L. Holley and James S. McLester, to investigate potassium intoxication in cardiorenal diseases as a result of using salt substitutes, $400.

Grant 19: Gene Frederick Lata, State University of Iowa School of Medicine, to investigate pantothenic acid and the biosynthesis of cholesterol, $350.

Grant 20: Peter Flesch, University of Pennsylvania School of Medicine, to study the local depilatory action of vitamin A and other isoprene polymers, $350.

Grant 21: Ethan A. H. Sims, University of Vermont College of Medicine, for studies on the inactivation of adrenal cortical steroids by the rat liver, $200.

Grant 22: Hans Selye, Institute of Experimental Medicine and Surgery Montreal University, to study the pituitary factor which influences barbiturate detoxification, $300.

Grant 23: Thomas G. Morrione, Long Island College Hospital, Brooklyn, New York, to investigate alterations in blood glycogen in hepatic disease, $300.

Grant 24: Edward L. Maxwell, Alabama State College for Negroes, to investigate production of androgen by the testes of fetuses, $500.

Grants from the Brant Fund:

Brant Grant 1: Martin Silberberg, Snodgras Laboratory Hospital Division, City of St. Louis, Washington University Medical School, to investigate the growth of the mammary gland and hemopoietic tissues in mice receiving grafts of anterior hypophyses, ovaries and adrenals, $500.

Brant Grant 2: Sydney William Britton, University of Virginia Medical School, for studies of adrenal involvement in maintenance of the upright position, $500.

Grants issued before January 1, 1951:

Grant 408: Ephraim Shorr, Cornell University Medical College, the effect of progesterone on the vaginal smear, $300.

Grant 454: W. L. Mendenhall and Albert J. Plummer, Boston University School of Medicine, the quantitative determination of theophylline, $50.

Grant 455: Frederick H. Pratt and Marion A. Reid, Boston University School of Medicine, the effect of cardiac drugs on the denervated lymphatic heart, $100.

Grant 499: Joseph Litwins, New York Medical College, the chemistry and hematology of blood donors, $200.

Grant 506: Andrew F. Burton, Howard University School of Medicine, (1) the distribution of sulfanilamide in maternal and fetal tissues at various stages of pregnancy and (2) the toxic effects of quinine on the fetus in utero, $600.

Grant 553: Adrian C. Kuyper, Wayne University College of Medicine, a procedure for the detection and determination of unidentified plasma constituents, $375.

Grant 561: G. L. Cantoni, Long Island College of Medicine, the mechanism whereby potassium exerts its effects on the intact smooth muscle, $400.

Grant 572: C. H. Werkman, Iowa State College Department of Bacteriology, the mechanism of action of penicillin and streptomycin, $1,000.

Grant 575: E. Barrett, L. J. Poo, L. Way and W. Yuen, Stanford University School of Medicine, reasons for the differences in the effects of various proteins on the rate of growth of the kidney, $1,000.

Grant 586: Harold D. Green, Wake Forest College, Bowman Gray School of Medicine, the role of the liver and kidneys in shock, $500.

Grant 587: Richard C. de Bodo, New York University College of Medicine, the antidiuretic action of some depressants of the central nervous system, $500.

Grant 603: Joseph H. Cort, Yale University School of Medicine, the effects of chronic stimulation of the autonomic nervous system of normal unanesthetized animals, $500.

Grant 607: Boyd Houchin, University of Louisville School of Medicine, the qualitative estimation and differentiation of tocopherols in blood of patients with congestive heart disease before and after the parenteral administration of dl-alphatocopheryl phosphate, $200.

Grant 612: J. Lerman, Massachusetts General Hospital, therapeutics of hyperthyroidism, $500.

Grant 613: Eugene P. Pendergrass and Harry P. Schenck, University of Pennsylvania School of Medicine, the effects of radiation on the lymphoid tissue of the human nasopharynx, $400.

Grant 614: Richard C. de Bodo, New York University College of Medicine, the mechanism of insulin hypersensitivity, $500.

Grant 616: Albert Dorfman, University of Chicago School of Medicine, the several basic components of the plasma of sick children, $350.

Grant 618: T. T. Chen, State Teachers College, Bemidji, Minn., an antibiotic substance which may have therapeutic value with respect to protozoan diseases, $500.

Grant 620: L. M. N. Bach, Tulane University of Louisiana School of Medicine, effect of the antidiuretic hormone on the oxygen consumption of the kidney, $350.

Grant 622: Lester M. Morrison, College of Medical Evangelists, Los Angeles, the role of lipoid metabolism in the pathogenesis of coronary artery thrombosis and in atherosclerosis of human subjects, $750.

Grant 623: R. P. Ahlquist, University of Georgia School of Medicine, a pharmacological study of the nucleosides, $200.

Grant 624: S. W. Clausen, University of Rochester School of Medicine, influence of coconut milk on the growth and utilization of vitamin A by the rat, $265.

Grant 627: Janet W. McArthur, Massachusetts General Hospital, adrenal cortical function in diabetic acidosis, $500.

Grant 628: James M. Orten, Wayne University College of Medicine, relation of citric acid and related organic acids to carbohydrate metabolism, particularly in experimental diabetes, $350.

Grant 631: C. P. Kraatz, Jefferson Medical College of Philadelphia, to determine in dogs whether pyridoxine will antagonize the vomiting induced by various types of drug stimulation, $300.

Grant 632: E. B. Carmichael, Medical College of Alabama, meperidine (demerol®) hydrochloride, $500.

Grant 634: M. H. F. Friedman, Jefferson Medical College of Philadelphia, experimental therapy of nonspecific ulcerative colitis, $500.

Grant 635: J. Maxwell Little, Wake Forest College, Bowman Gray School of Medicine, heat liability of the diuretic factor present in dialyzed human urine, $500.

Grant 636: R. R. Overman, University of Tennessee School of Medicine, mechanisms of ionic imbalance in malaria and associated pathophysiological states, $500.

Grant 638: A. H. Schein, University of Vermont College of Medicine, uric acid levels in humans, $500.

Grant 640: Robert Elman, Barnes Hospital, St. Louis, further development of a flame photometer, $500.

Grant 641: Joseph B. Kirsner, Walter L. Palmer, and William E. Ricketts, University of Chicago School of Medicine, hepatic disease, $500.

Grant 642: Robert C. Lowe, University of Oklahoma School of Medicine, hepatic metabolism, $500.

Grant 643: David Lehr, New York Medical College, triple sulfonamide mixtures, $500.

Grant 644: Albert Milzer, Michael Reese Hospital, a survey of virus and rickettsial infections in Chicago, $500.

Grant 645: Stuart Mudd, University of Pennsylvania, the cytology of normal and phage-infected cells, $400.

Grant 646: T. T. Chen, University of Southern California, antibiotics produced by protozoa, especially Paramecium, to determine their possible therapeutic value, $500.

Grant 647: Irving Siegel, Chicago Medical School, the difference, if any, in the healing of incisions in the pregnant and nonpregnant uterus, $500.

Grant 648: Emmett J. Carmichael, W. H. Johnson and F. A. Kay, Medical College of Alabama, toxicity of meperidine (demerol®) hydrochloride, $500.

Grant 649: P. J. Carroll, C. M. Wilhelmj and H. C. Struck, Creighton University, effect of anticonvulsants on brain metabolism, $500.

Grant 650: Windsor C. Cutting, Stanford University, virus chemotherapy, $500.

Grant 651: Sidney Ellis, Temple University, atropine and sympatholytic agents to control intestinal activity, $450.

Grant 652: Robert C. Grauer, Allegheny General Hospital, Pittsburgh, sex hormones in mammary cancer, $500.

Grant 653: Harald Holck, University of Nebraska Foundation, liver and detoxification of nostal in the rat, $250.

Grant 654: Herbert Silvette, Meharry Medical College, excitement stage of barbiturate action, $250.

Grant 655: S. W. Britton, University of Virginia, adrenal glands in maintaining upright position, $500.

Grant 657: R. Beutner, T. C. Barnes and Jens Christiansen, Hahnemann Medical College, (1) drugs and skin healing, (2) toxicity of cardiac drugs, and (3) antabuse in alcoholism, $500.

Grant 658: Joseph B. Kirsner, William E. Ricketts and Walter L. Palmer, University of Chicago, studies on hepatic disease, $400.

Grant 659: John B. Lambooy, University of Rochester, synthesis of 2, 3- and 2, 6- and 3, 5-dihydroxyphenylalanines, $400.

Grant 662: Mitchell I. Rubin, Children's Hospital, Buffalo, bacterial growth with antibiotics, $150.

Grant 1: Lester M. Morrison, College of Medical Evangelists, Los Angeles, effect of cholesterol metabolism in arteriosclerosis, $500.

Following is a list of the investigations conducted with the assistance of grants made by the Committee on Research, reports of which were published:

O'Sullivan, M. E.: Migraine is Curable. The Result of a 13 Year Study, Pamphlet.

Chambers, R., and Copley, A. L.: A Method and Observations on Capillary Fragility in Rabbits, Federation Proc. **6**:(March) 1947.

Copley, A. L.: Embolization of Platelet Agglutination Thrombi in the Hamster's Pouch Produced by Heparin, Federation Proc. **7**:(March) 1948.

Copley, A. L.: Hemorrhagic Diathesis in Hiroshima, Nagasaki and at Bikini Atomic Bomb Test, J. A. M. A. **136**: 145 (May) 1948.

Murphy, D. P., and Farris, E. J.: Treatment of Sterility; Insemination Timed by Rat Ovulation Test, J. A. M. A. **138**: 13 (Sept.) 1948.

Cutting, W. C., Dreisbach, R. H., and Neff, B. J.: Antiviral Chemotherapy: Further Trials, Stanford Med. Bull. **6**: 481 (Nov.) 1948.

Marsh, D. F.: The Comparative Pharmacology of the Isomeric Heptylamines, J. Pharmacol. & Exper. Therap. **94**: 225 (Nov.) 1948.

Farris, E. J., and Murphy, D. P.: Prediccion de la Ovulacion en el Tratamiento de la Esterilidad, Revista Medical de Cordoba **36**: 199, 1948,

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Werthessen, N. T.: A Technique of Organ Culture for Protracted Metabolism Studies, Endocrinology **44**: 109 (Feb.) 1949.

Farris, E. J.: The Number of Motile Spermatozoa as an Index of Fertility in Man: A Study of 406 Semen Specimens, J. Urol. **61**: 1099 (June) 1949.

Marsh, D. F. and Herring, D. A.: The Comparative Pressor Activity of the Optical Isomers of Cyclohexylisopropylamine and Cyclohexylisopropylmethylamine, J. Pharmacol. & Exper. Therap. **97**: 68 (Sept.) 1949.

Ricketts, W. E., Sterling, K., Kirsner, J. B., and Palmer, W. L.: Electrophoretic Studies of the Serum Proteins in Portal Cirrhosis, Gastroenterology **13**: 205 (Sept.) 1949.

Sterling, K., Ricketts, W. E., Kirsner, J. B. and Palmer, W. L.: The Serum Proteins in Portal Cirrhosis Under Medical Management. Electrophoretic Studies, J. Clin. Invest. **28**: 1236 (Sept.) 1949.

Farris, E. J.: The Effect of Vitamin E Upon Spermatogenesis, New York Acad. Sciences **52**: 409 (Oct.) 1949.

Tucker, A. L.: Autonomic Competition in Pancreatic Vacuolization, J. Pharmacol. & Exper. Therap. **97**: 251 (Nov.) 1949.

James, R. G., and Brady, J.: Ketogenic Action of Niacin in the Normal Fasted Rat, Am. J. Physiol. **159**: 547 (Dec.) 1949.

Robb, J. S.: A Study of the Detail of Muscle Insertions in the Heart, Bull. International Assoc. Medical Museums No. 30, 1949.

de Bodo, R. C., and Slater, I. H.: Diabetes Insipidus and Its Differential Diagnosis, Progress Clin. Endocrinol. page 547 (Jan.) 1950.

Farris, E. J., and Murphy, D. P.: Contribution au Traitement de la Sterile et a la Determination du temps D'Ovulation, La Semaine des Hopitaux de Paris **26**: 1 (Feb.) 1950.

de Bodo, R. C., Earle, D. P., Jr., Schwartz, I. L., Farber, S. J., and Pellegrino, E. D.: Electrolyte and Water Excretion in the Hypophysectomized Dog, Federation Proc. **9**: (March) 1950.

Marsh, D. F., and Herring, D. A.: The Comparative Pharmacology of the Isomeric Chain Methyl Substituted Heptylamines, J. Pharmacol. & Therap. **98**: 300 (March) 1950.

Ricketts, W. E., Kirsner, J. B., Palmer, W. L., and Sterling, K.: Observations on the Diagnostic Value of Liver Biopsy, Tests of Hepatic Function, and Electrophoretic Fractionation of Serum Proteins in Asymptomatic Portal Cirrhosis, J. Lab. Clin. Med. **35**: 403 (March) 1950.

Farris, E. J.: Evaluation of Sterility Problems of the Male, J. Urol. **63**: 748 (April) 1950.

Ricketts, W. E., Lushbaugh, C. C., Kirsner, J. B., and Palmer, W. L.: Pathologic Observations in Portal Cirrhosis, Gastroenterology **14**: 491 (April) 1950.

Farris, E. J.: Motile Spermatozoa as an Index of Fertility in Man, Fertility and Sterility **1**: 239 (May) 1950.

Ricketts, W. E., Kirsner, J. B., Kippen, D. D., and Palmer, W. L.: Tests of "Hepatic Function" in Portal Cirrhosis, Gastroenterology **15**: 40 (May) 1950.

Ricketts, W. E., Kirsner, J. B., and Palmer, W. L.: Clinical Observations on the Severity of Liver Failure in Portal Cirrhosis, Gastroenterology **15**: 245 (June) 1950.

Robb, J. S.: Electrocardiography and Cardiac Physiology, J. Applied Physiol. **3**: 1 (July) 1950.

Kirber, M. W. and Henle, W.: A Comparison of Influenza Complement Fixation Antigens Derived from Allantoic Fluids and Membranes, J. Immunol. **65**: 229 (Aug.) 1950.

Holck, H. G. O., Riedesel, C. C., and Robidoux, F. A.: Studies on Tolerance and Cross-Tolerance to Nostal (Propallylonal; Isopropyl-beta-bromallyl Barbituric Acid), J. Amer. Pharmacol. Assoc. **34**: 630 (Nov.) 1950.

de Bodo, R. C., Kurtz, M., Ancowitz, A., and Kiang, S. P.: Loss of Insulin Hypersensitivity and Development of Diabetes in Hypophysectomized Dogs Produced by Purified Growth Hormone, Soc. Exper. Biol. & Med. **74**: 524, 1950.

Janes, R. G.: Comparative Study of the Ketogenic Activity of Certain Niacin Compounds, Proc. Soc. Exper. Biol. & Med. **75**: 246, 1950.

Mosey, L. and Stutzman, J. W.: The Effect of Cyclopropane, Ether, and Thiopental Sodium upon the Over-Digitalized Heart, Proc. Soc. Exper. Biol. & Med. **75**: 34, 1950.

Bauer, R. O.: Acute Toxicity and Antagonism of N-octyl Bicycloheptene Dicarboximide (NOBD), J. Pharmacol. & Exper. Therap. **101**: (Jan.) 1951.

Stumpff, D. L., and Belknap, R. W.: Effect of Certain Anticonvulsants on QO_2 of Dog Cerebral Cortex, Federation Proc. **10**: (March) 1951.

Teague, R. S., and Brown, A. E.: Determination of Diethylstilbestrol and Its Glucuronide in Urine, J. Biol. Chem. **189**: 343 (March) 1951.

Warren, M. R. and Alden, R. H.: Necrotizing Action of Various Preparation for Intramuscular Injection, Federation Proc. **10**: (March) 1951.

Wayne, H., Joyner, J. T., Jr., McCall, W., and Green, H. D.: Influence of Hepatic Blood Flow Upon Resistance to Prolonged Arterial Hypotension, Federation Proc. **10**: (March) 1951.

Bass, A. D., Yntema, C. L., Hammond, W. S. and Frazer, M. L.: Studies on the Mechanism by which Sulfadiazine Affects the Survival of the Mammalian Embryo, J. Pharmacol. & Exper. Therap. **101**: 362 (April) 1951.

Mendlowitz, M.: Digital Vascular Resistance in Normal, Polycythemic and Hypertensive States, Circulation **3**: 694 (May) 1951.

Silberberg, M., Silberberg, R., and Leidler, H. V.: Effects of Anterior Hypophyseal Transplants on Intrasplenic Ovarian Grafts, Cancer Research **11**: 624 (Aug.) 1951.

Mosey, L., Maison, G. L., and Stutzman, J. W.: Cardiac Effects of a Hypotensive Veratrum Derivative in Dog Premedicated with Digitalis or Quinidine, Proc. Soc. Exper. Biol. & Med. **76**: 486, 1951.

Report of the Laboratories

The American Medical Association Laboratories include the Chemical Section and the Microbiologic Section, the latter now directed by Muriel E. Warner, M.S.

The laboratories investigate and evaluate the chemical and microbiologic properties of drugs, foods, cosmetics and special apparatus with which the Association's councils, bureaus and departments are concerned.

CHEMICAL SECTION

Collaboration with the Council on Pharmacy and Chemistry

The primary function of the Chemical Laboratory is to cooperate with the Council on Pharmacy and Chemistry in the evaluation of drugs which have been presented to the Council in its acceptance program. Specifically, the laboratory considers and examines the therapeutic agent and its various dosage forms for purity, identity, quality, strength and limits of tolerance. The results of these examinations are published in monograph form in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION as a part of the Report of the Council on Pharmacy and Chemistry and in the annual edition of New and Nonofficial Remedies.

Within recent years chemotherapeutic agents, many of them synthetics, have steadily replaced the older extractives, and each year more products are examined by the laboratory. Many of the new specifics have definite and known chemical structures which allow for more accurate and complete descriptions of the drugs. Since many of the newer and more potent drugs may display side reactions and toxic manifestations, stringent standards compatible with good manufacturing practice are required. This in turn demands more accurate analytical methods and the inclusion of tests to establish the absence of undesirable contaminants.

Results of these examinations by the laboratory assure the physician that Council accepted products conform to a high standard of purity and potency. The five year interim between editions of the official compendia during which there may be no standards or specifications for new drugs means that the tests and standards monographs of the Chemical Laboratory are relied on by all interested in drug control. They serve as control procedures for the pharmaceutical manufacturers and are used by procurement agencies to determine whether a given drug meets specifications.

During the past year the Chemical Laboratory considered and examined 600 individual items, of which the largest percentage were products presented for acceptance by the Council on Pharmacy and Chemistry. The remaining items were examined for the Committee on Cosmetics, the Council on Physical Medicine and Rehabilitation, the Council on Foods and Nutrition, the Bureau of Investigation and the Advertising Committee. It was necessary occasionally to reject products or request changes by the manufacturers in the preparation or control of their products.

Periodically the laboratory checks on previously accepted products by going into the open market for samples. In those instances where products were below standard, this was reported to the Council on Pharmacy and Chemistry as well as to the manufacturer, and in some instances the Council was requested to consider withdrawal of acceptance.

The laboratory reviewed and revised several tests and standards monographs for products which have been accepted by the Council on Pharmacy and Chemistry for several years because newer methods now available are more accurate or more rapid.

Tests and standards were established for 28 new drugs and 43 dosage forms of those drugs. In addition to the establishment of tests and standards monographs, the laboratory advised the Council in such matters as nomenclature and the technical aspects of chemistry involved in considering therapeutic agents.

COLLABORATION WITH COMMITTEE ON COSMETICS

The Chemical Laboratory cooperates with the Committee on Cosmetics in the latter's acceptance program. The Laboratory's work entails investigation of the chemical aspects of the product. The results of these examinations and opinions concerning claims made for the product are forwarded to the committee for consideration. Fifty-eight finished products and a considerable number of their components were studied during the past year.

COLLABORATION WITH OTHER DEPARTMENTS OF ASSOCIATION

Considerable time was spent in an advisory capacity to other departments of the American Medical Association. These included examination of products for several Councils and Bureaus, and aid to the Editorial Department on chemical statements and nomenclature which appeared in articles to be published in THE JOURNAL, to the Library of the Association in classifying entries of chemical and pharmaceutical nature for the Quarterly Cumulative Index Medicus and to the Advertising Committee by examining appliances and test kits considered for advertising and reviewing chemical statements to appear in advertising copy. The laboratory cooperated closely with the Committee on Publications of the Council on Pharmacy and Chemistry in preparation of "New and Nonofficial Remedies" for publication.

SPECIAL PROBLEMS

Examination of the many products by the laboratory often reveals the desirability of carrying on investigations of a more fundamental nature which frequently develop into relatively long term projects. Among those now being studied are some which had been started several months ago, such as the in vitro comparison of the effectiveness of various antacids and the establishment of criteria for enteric coatings. A new problem under way is a study of the effectiveness of filters in removing tars, nicotine and other constituents from tobacco smoke.

The laboratory is investigating new and advanced analytical technics regarding their applicability to its immediate problems. It has done some investigational work for certain medical groups in which the problems were of general interest to the medical profession.

The laboratory during the past year has corresponded and worked collaboratively with the United States Pharmacopeia, National Formulary, Food and Drug Administration, American Dental Association and other agencies. It also reviewed for THE JOURNAL 45 books of a chemical nature which are of interest to the physician and answered numerous letters of inquiry concerning the chemistry of drugs.

MICROBIOLOGIC SECTION

During the past year the Microbiologic Laboratory has been engaged chiefly in the examination of products, submitted for inclusion in New and Nonofficial Remedies, for which sterility claims have been made by the manufacturer. Approximately one hundred such products have been tested for sterility by methods prescribed by the United States Pharmacopeia XIV and the United States Food and Drug Administration and by other technics especially applicable to the product under study. Various chemical products for which bactericidal and bacteriostatic claims were made have also been tested. In addition to these examinations, several mechanical devices were tested to determine the validity of the manufacturers' claims.

The Microbiologic Laboratory has also cooperated with other departments and councils of the American Medical Association on bacteriologic problems concerned with advertising, literature and revisions for N. N. R.

This department is now actively engaged in a revision of microbiologic procedures in N. N. R., and in a reconsideration of the problem of the cold disinfection of instruments.

Report of the Committee on Cosmetics

The Committee on Cosmetics continued its efforts to encourage the scientific approach in the formulation and manufacture of cosmetics through quality controls and thorough laboratory and clinical investigation. Progress in this direction is most obvious in the number of preparations which have satisfactorily met the requirements of the Committee for acceptance. All products are evaluated on the basis of data on composition, manufacturing controls and advertising claims. Whenever indicated, clinical evaluation of primary irritation and sensitization propensities, toxicologic tests and usuage studies are also required. Accepted products are privileged to display the seal of the committee, which is similar in design to the seals of the scientific councils of the American Medical Association. A list of accepted products appear at intervals in a Report on Accepted Products in THE JOURNAL. A pamphlet incorporating all of these reports is under preparation for general distribution.

The committee fosters a better understanding of the need for cosmetics and the health problems which may arise through their use through the dissemination of pertinent information to the medical profession and the public by means of the various mediums available for this purpose. Reports on timely subjects in the cosmetic field are authorized for publication in THE JOURNAL and *Today's Health*. More than a thousand inquiries are answered each year by individual letters. The majority of these come from practicing physicians and the scientific personnel of firms manufacturing or distributing cosmetics and allied preparations. The remainder are sent in by persons or organizations interested in the health aspects and the usefulness of cosmetics. Numerous telephone inquiries are answered by members of the professional staff.

An exhibit on cosmetics and dermatitis sponsored by the Committee is available for presentation at medical meetings throughout the country. In addition an electrical transcription on "Cosmetics" is included in the electrical transcription library of the Bureau of Health Education.

During the past year the membership has been enlarged to accommodate the increased scope of activities.

The Committee expresses its gratitude to the various departments at Association headquarters and to the consultants of the Committee who have contributed their valuable services so freely during the past year.

Report of the Council on Physical Medicine and Rehabilitation

In 1951 a physician secretary was added to the personnel of the Council on Physical Medicine and Rehabilitation, and the former Secretary became the Director of Biophysical Investigations. The establishment of a small physical laboratory which will be directed by a physician physiologist was authorized. These changes are designed to assist the Council in continuing, as efficiently as possible, its assigned duties of gathering and disseminating information to aid the medical profession in determining the therapeutic and diagnostic value of devices and methods.

In the course of the year, two of the members, Dr. William E. Grove and Dr. Walter E. Garrey died. Dr. Arthur L. Watkins was elected to succeed Dr. Garey. The appointment of a successor to Dr. Grove has not been completed.

PUBLICATIONS

The booklet "Apparatus Accepted" was reorganized on a different basis in order that it might be distributed without charge to persons desiring it. Seven articles were adopted and published during the year. They were: Suggestions for Prospective Purchasers of Electrocardiographs; Emergency Wooden Respirator; Minimal Requirements for Acceptable Pure Tone Audiometers for Diagnostic Purposes; Regulations for Diathermy Equipment; Hearing Aids and Advertising; Audiometry at Higher Frequencies; and The Health Resort in the Management of Chronic Disease.

Approximately 70 pieces of apparatus were submitted for consideration during the year. Forty-three pieces of apparatus were reported on in THE JOURNAL in 1951.

COUNCIL ADVISORY COMMITTEES

American Health Resorts. — The Advisory Committee on American Health Resorts, in keeping with its task of investigating American Health Resorts, gave consideration to applications from four health resorts which were submitted to the Council in 1951.

Artificial Limbs.—The article, "Certification Program Adopted by Prosthetic and Orthopedic Appliance Industry," to appear in THE JOURNAL or a special monthly publication of the American Medical Association, was adopted by this committee and the Council is going forward with the program.

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Audiometers and Hearing Aids.—With the help of this Committee, "Minimal Requirements for Acceptable Pure Tone Audiometers for Diagnostic Purposes," "Audiometry at Higher Frequencies" and "Hearing Aids and Advertising" were published. Twenty hearing aids were submitted, and 13 were accepted; the remainder are undergoing consideration. Five audiometers were submitted, and three were accepted; the other audiometers are undergoing consideration. This committee held its two day annual meeting in July, meeting jointly on one day with representatives of manufacturers of audiometers and hearing aids.

Clinical Thermometry.—This committee of the Council is continuing its survey of problems related to clinical thermometers.

Devices for Fertility and Infertility.—The name of the Advisory Committee on Contraceptive Devices was changed to Advisory Committee on Devices for Fertility and Infertility. This committee has continued to serve the Council through its consideration of submitted contraceptive devices.

Education.—The Advisory Committee on Education has continued its active role within the Council by assisting in the encouragement and development of programs designed to increase the number of physiatrists, physical therapists and occupational therapists. In these activities the Council cooperated with the Council on Medical Education and Hospitals as well as the American Congress of Physical Medicine. A questionnaire, "Teaching Program in Physical Medicine," was mailed to the deans of medical schools. Seventy replies were received. The Subcommittee of the Committee on Education met in 1951.

Electrocardiographs.—Two instruments were submitted to the Council in 1951, and one was accepted. This group met in Atlantic City in June during the annual session. The Advisory Committee is responsible for the publication of the article, "Suggestions for Prospective Purchasers of Electrocardiographs."

Electroencephalography.—One instrument was submitted to the Council in 1951.

Ionizing Radiations.—The name of the Advisory Committee on Roentgen Rays and Radium and the Medical Aspects of Atomic Energy was changed to the Advisory Committee on Ionizing Radiations.

Ophthalmic Devices.—The Advisory Committee on Ophthalmic Devices has continued to advise the Council on visual testing apparatus and the use of beta radiation in the field of ophthalmology and has submitted "Minimal Requirements for Beta Radiation Ophthalmic Applicators" to the Council.

Respirators.—Two respirators were submitted to the Council and two were accepted in 1951.

OTHER ACTIVITIES

The manufacturers of resuscitators and inhalators met in Atlantic City with the representatives of the Council and discussed "Tentative Minimal Requirements for Resuscitator and Inhalator Equipment." One resuscitator and three inhalators were accepted in 1951.

The manufacturers of infant incubators met in Atlantic City with representatives of the Council to discuss the establishment of "Minimal Requirements for Infant Incubators."

Demonstrations and exhibits on subjects relating to physical medicine, as well as other applications of physics to medicine, have been prepared for medical and lay audiences in various sections of the United States. The Council has cooperated with the Bureau of Exhibits in preparing and setting up demonstrations and exhibits. Two of the most noteworthy of these exhibits were "Atomic Energy and Radiation Injury" and "Noise in Industry." The Council has cooperated with the Committee on Medical Motion Pictures in reviewing new educational films and with the editorial staff in preparing articles and reviews.

Report of the Council on Foods and Nutrition

The past year has seen the Council on Foods and Nutrition continue to serve the medical profession in many ways.

FOOD ACCEPTANCE AND ADVERTISING

The food acceptance program of the Council added more than two hundred items to the list of accepted foods. Reviewing food advertising for accuracy has required an ever-increasing amount of time on the part of the Council members and the Council office. This is due largely to the increase in the number of products that have been reviewed. The Council also examines on request educational food advertising presenting information concerning nutritional or physiological values of classes of foods without reference to any specific brand. A great amount of such advertising has been critically reviewed and in almost every instance the suggestions of the Council have been adopted. This is an excellent illustration of the prestige the Council enjoys with the various food companies and trade and professional organizations interested in the dissemination of accurate nutritional knowledge.

ASSISTANCE TO AUTHORS

The Council continues to make its services available to all groups and individuals having a scientific interest in foods and nutrition. During the year inquiries have been answered from members of the profession, laymen, teachers, and governmental agencies here and abroad.

A considerable amount of time and effort has been expended during the past year in assisting writers who are developing articles on subjects related to foods and nutrition. A considerable amount of additional time has been devoted to the review and criticism of finished articles submitted by authors prior to publication. Articles and books have been reviewed for publishers of popular editions. This is a time-consuming process but an important means of encouraging accuracy. Apparently the Council's best opportunity to promote improved nutrition through the work of lay writers is to supply accurate information to those authors who request it and then to depend on their personal integrity.

CHEMICAL FOOD ADDITIVES

The Council reexamined the concept of a wholesome food and specifically called attention to the importance of insisting on freedom from harmful or potentially harmful nonfood additives. A statement and a short definition were published in THE JOURNAL of June 2, 1951. Because of its basic significance the short definition is reproduced here: A wholesome food "is a product which makes a significant contribution to human dietary requirements and which is clean and free from microorganisms and chemical additives of such quality or in such quantities that they may be directly injurious or result in reduced nutritional quality."

Two other important basic statements in this field were made by the Council. A statement expressing the need for adequate testing of all chemical additives destined for use in foods appeared in THE JOURNAL of June 23, 1951. It was pointed out also that not only should chronic as well as acute toxicity tests be performed but practical methods of analysis should be developed before such substances are permitted in foods.

OTHER REPORTS

Because of recurring interest in the safety of aluminum cooking utensils the Council was requested to give an opinion based on the latest available information. This was published in THE JOURNAL of June 2, 1951. It was the Council's considered opinion that the use of aluminum cooking utensils is in no way injurious to health.

An excellent report on vitamin B_{12} and folic acid in infant nutrition. This was published in THE JOURNAL of July 14, 1951. It is a summary of a conference held at the Massachusetts General Hospital by active investigators of the problem.

The long-awaited second edition of the Handbook of Nutrition, published under the auspices of the Council, made its appearance in May, 1951, and has been very favorably received.

In connection with the subject of chemicals in foods the statement appearing in THE JOURNAL of June 23, 1951, was presented, on request, before the House Select Committee to Investigate the Use of Chemicals in Food Products of the Eighty-First Congress, Second Session.

Frozen Foods.—The increasing availability of frozen orange juice concentrate brought a great number of inquiries to the Council office concerning its vitamin C content. Because of the apparent widespread interest in this problem the Council published a report on frozen concentrated orange juice which appeared in THE JOURNAL of May 5, 1951. Included in this report was the statement, "It would appear, then, from studies made to date, that frozen concentrated orange juice, properly processed under low temperature evaporation may be an excellent and dependable source of vitamin C."

Iodized Salt.—The Council on Foods and Nutrition has supported the iodinization of table salt since 1932. The program continues to be recognized as a practical public health measure providing nutritionally essential iodine to assist in the prevention of simple goiter. At the present time fifteen different brands of iodized salt are on the accepted list of the Council. During the past year the Council has cooperated with Dr. Sebrell of the United States Public Health Service and others in the preparation of a pamphlet on the subject of iodized salt and simple goiter.

Flour and Bread Enrichment.—As early as 1939 the Council gave impetus to measures designed to improve the nutritive merit of white flour and bread by suggesting the restoration of important nutrients removed in milling. Subsequently, the enrichment program was developed as a partial remedy for losses incurred in milling. The program is now in its eleventh year and is widely regarded as an important public health measure.

Current Work.—In progress are such considerations as the following matters of interest to the profession and the public: New foods intended for use in sodium restricted diets; the use of nonfood sweeteners in commercially prepared foods; vitamin toxicity; the promiscuous use of vitamins and minerals; fluorine in foods; chemical food additives; labeling of special purpose foods; grades of milk as related to label and advertising claims; nutrition and resistance to disease; and special reports and request articles.

REPORT TO THE COMMITTEE ON LEGISLATION

Because of the Council's long term interest in the problem of food additives, the Committee on Legislation of the American Medical Association requested the Council's opinion concerning H. R. 3257, a Bill to Amend the Federal Food, Drug and Cosmetic Act, as amended, by Providing for the Regulation of Chemical Additives to Foods. This bill was carefully reviewed by the members of the Council and there was a unanimity of opinion with reference to the necessity for the establishment of an effective form of control which will prevent the use of chemical additives in foods before they have been proven to be safe. While the Council did not feel qualified to pass on the exact wording used in the bill, it did approve of H. R. 3257 in principle.

At its meeting in November, 1950, the Council passed a resolution protesting the dissolution of the Nutrition Branch of the United States Public Health Service. This was transmitted to the Surgeon General and others.

SYMPOSIUM EXHIBIT

At the request of the Association's Bureau of Exhibits the Secretary of the Council cooperated in the organization of a Symposium Exhibit entitled, "Overweight, Nutrition and Health," which was presented at the Atlantic City session June 11-15, 1951. The large attendance, together with the letters of commendation that followed, and a special citation by the Committee on Awards indicated clearly the interest of the practicing physician in the subject of foods and nutrition. The sponsoring committee consisted of Dr. Louis Dublin of New York representing the public, Dr. Elliott P. Joslin of Boston representing the group interested in diabetes, Dr. James S. McLester representing the American Medical Association, Dr. Stanley R. Truman representing the American Academy of General Practice, and Dr. Russell M. Wilder representing governmental agencies. Exhibits were prepared by the Metropolitan Life Insurance Company, the Department of Nutrition of the Harvard School of Public Health, the United States Public Health Service, the Joslin-Root Diabetic Group of Boston and the American Dietetic Association. Adjacent to these exhibits was a lecture room in which discussions were conducted throughout the day with a new speaker taking over every half hour. This pattern was followed every day of the meeting with a total of more than fifty speakers taking part in the proceedings.

ORGANIZATION

Over and beyond their professional and Association duties, Council members have made, during the past year, outstanding contributions to the solution of national and world nutrition problems. Members of the group have participated in such work in Austria, Yugoslavia, Japan, Central America, England, and our own national capitol.

The Secretary was again invited to serve as a member of the Department of Agriculture's Ad Hoc Advisory Committee on Food and Nutrition. He was also made a public trustee of the Food Law Institute.

APPRECIATION

The Council appreciates the good will that has been shown by the food industry and their advertising agencies. The decisions of the Council have been graciously accepted in almost all instances. Rapport has been excellent.

Report of Council on Industrial Health

In accordance with past experience, wars or rumors of wars impart new vitality to industrial medical progress. The year 1951 has witnessed a number of significant developments.

INDUSTRIAL HEALTH AND DEFENSE

At the time of its last annual report the Council on Industrial Health was instructed to pay particular attention to the potential contribution of the industrial health profession to defense production. In consequence, a Committee on Industrial Health Defense was created. Two problems of major significance immediately presented themselves and were assigned to subcommittees, both of which have now reported. The first subcommittee has prepared a "Disaster Blueprint for the Industrial Physician." Its recommendations included discussions of specific disaster preparation by industrial physicians with special consideration given to the scope of medical service, first aid training, organization and function of rescue squads, major equipment and supplies, first aid boxes, transportation and communication. It also recommended that, in respect to general disaster controls, industrial physicians should make a health services survey as a means of providing the community civil defense administration with an inventory of industrial health services potential and distribution.

The objectives of the second subcommittee were to inquire into the procurement of additional industrial workers, to recommend procedure for recruiting and training additional industrial health personnel involved. The report of the committee can be summarized as follows:

1. The committee has had three immediate objectives: (*a*) to inquire into the sources of additional production workers (based on available estimates) and to determine the expected demands that are to be made on the health professions in respect to them; (*b*) to recommend procedure for recruiting and training additional industrial health personnel needed to maintain such workers at peak production capacity; and (*c*) to outline the essential industrial health problems involved.

2. Manpower requirements of the present mobilization program call for a net increase in the labor force, civilian and defense, of 3.2 million workers in the two years between the last quarters of 1950 and 1952. It is expected that 2.3 million workers will be added during 1951.

3. Sources of additional manpower must come from women, the handicapped, older workers and, in special circumstances, adolescents.

4. The principal objectives of industrial health service are the same for all workers—selective placement and health maintenance.

5. The committee estimates additional health manpower requirements, on full time bases or equivalent, for defense industry to be

	1951	1952	Total
Physicians	640	320	960
Nurses	2,120	1,064	3,184
Industrial hygiene engineers	160	80	240

6. The committee recommends that industrial physicians devoting full or a substantial part of their time to defense industry should be deferred from military service excepting those in organized reserves or in priority groups 1 and 2 under Selective Service.

7. Training of industrial physicians should include indoctrination courses under sponsorship of state and county medical societies and on-the-job training under experienced industrial physicians. All medical schools should provide undergraduate

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instruction in industrial medicine. Postgraduate training in industrial medicine of specialty grade should be more generally available in medical, public health, or graduate schools. Industry should collaborate to supply coordinated in-plant training.

8. Small plants, especially those going into defense production, should have access to industrial health services. Steps should be taken to encourage the development of such services by individual physicians or groups, preferably under local medical society sponsorship.

Members of the Council and its staff have also participated in the preparation of health and safety standards designed to implement the Walsh-Healey Act which requires that contracts coming within its purview must be carried out under safe and healthful conditions. It is expected that these standards will represent a very important improvement in the application of preventive procedures to industry over the country as a whole.

CONFERENCES WITH STATE COMMITTEES ON INDUSTRIAL HEALTH

A conference held during the Annual Congress on Industrial Health in Atlanta in February was designed to acquaint the Council and committees on industrial health in state medical societies with the work of each and to effect improved teamwork. The goal is to accelerate the development of industrial health services in accordance with accepted standards and with emphasis on local development. The results of this conference were so satisfactory that it is intended to make this meeting an annual event.

INDUSTRIAL HEALTH AND GENERAL PRACTICE

In May 1950, the American Academy of General Practice reported that 94% of its membership cared for industrial cases, that the average number of cases seen in 1948 was 234 per member and that about 20% of its members devote full time to industrial practice. In consequence, representatives of the Academy and of the Section on General Practice of the American Medical Association were invited to meet with the Council's Professional Relations Committee to discuss a program of training for general practitioners in the fundamentals of industrial medical practice. Pursuant thereto a joint committee was established to formulate a plan of action. In summary, the recommendations of the joint committee were that a general practitioner be added to the membership of the Council, that a general practitioner be included in the members of all state or county medical society committees on industrial health, that a committee on industrial health be appointed by the Academy in each of its component groups and that the Council staff develop a detailed curriculum to be used in the postgraduate educational activities of the American Academy of General Practice, the constituent state medical associations and their component societies. The Council will be expected to prepare a list of qualified speakers and teachers for the furtherance of this training program.

NEWS LETTER

The monthly News Letter of the Council has continued to be used as a medium for exchange of information and to promote education and services. The mailing list of three hundred includes the chairman of the state committees on industrial health, state medical society executives and state health commissioners, as well as the official headquarters group. The News Letter is also published each month in the *Archives of Industrial Hygiene and Occupational Medicine*, as a means for wider distribution.

NATIONAL SAFETY COUNCIL

The staff of the Council has acted as consultants to the National Safety Council in the development of audiovisual devices used in teaching health and safety to small conference groups of employees. This is regarded as an important activity since it channels dependable information directly to the workers themselves.

ESSENTIALS OF MEDICAL NURSING SERVICES IN INDUSTRY

As previously reported, the Council, the Industrial Medical Association and the American Association of Industrial Nurses have been engaged in a joint study of medical-nursing relations in industry. The Council on Industrial Health has prepared the following statement which has been referred to the cooperating groups with strong expectations for final agreement:

Essentials of Medical Nursing Services in Industry

The status of the nurse in industry working without direct medical supervision presents an important inter-professional problem. The following statement has been prepared jointly by the American Association of Industrial Nurses, the Industrial Medical Association and the Council on Industrial Health of the American Medical Association to clarify legal and ethical principles, both for the members of interested professional organizations and for industrial employers providing any of the listed health services:

I. The value of physicians and nurses in industry depends on
- A. Training, experience and aptitude
- B. A position of authority in the industrial organization
- C. Good rapport with workers
- D. Good relations with their professional colleagues
- E. Thorough knowledge of work environment and processes
- F. Effective use of community health resources

II. A health service in industry should provide
- A. A safe and healthful work place
- B. Health counseling and health education
- C. Personal medical services as required for
  1. Observance of laws, codes and health regulations
  2. Emergency medical care
  3. Health conservation
  4. Job placement

III. Personal medical services involving the establishment of a diagnosis and the definition of treatment or the performance of specific preventive measures are functions of the physician. However, it is desirable for the nurse to participate in such services.
- A. If she acts under medical supervision
- B. If she acts in an emergency

Standing orders are used to supplement rather than replace medical supervision. They are defined as a written compend of directions outlining routine medical or nursing services or procedures of an emergency nature approved and signed by a licensed physician and acknowledged by him to be services and procedures which may, in his absence, and until his arrival, be performed by a particular industrial nurse. Standing orders may constitute medical supervision if they are not an attempt to delegate the exercise of medical discretion but only delegate the execution of mechanical, clerical or administrative acts.

IV. In the absence of direct medical supervision and at the time of her employment, the industrial nurse should acquaint her employer with the legal and ethical scope of her services. If she is asked to perform services exceeding her training and licensure, she should seek advice from the nearest official medical or nursing agency.

V. In respect to industrial health services other than those listed as personal, the nurse can exercise considerable initiative. Practical limits must be based on her training, experience, and the availability of qualified consultants.

FIRST AID

A Pocket First Aid Manual is in process of development as a joint project of the Council and the Bureau of Health Education. Contents will be limited to common emergencies, and instructions will be simplified so that those with no formal first-aid training will be able to understand and apply them. Introductory remarks in the Manual will point up the importance of prompt and effective action following injury whether at work, at home or at play. It should serve equally well as a useful guide in civil defense planning.

The Council also received a statement of first aid instructions issued by the Blue Cross Commission. These were reviewed by the Council and after a conference with the staffs of the Council on Pharmacy and Chemistry and Bureau of Health Education,

the Blue Cross Commission was informed that these first aid recommendations were in substantial agreement with the publications of the Council.

NOISE

Attention has been directed to the growing importance of impaired hearing sustained by industrial workers exposed to excessive noise. Diagnosis and prevention were discussed at a Conference on the Problems of Noise in Industry presented at Atlantic City in April, co-sponsored by the Subcommittee on Noise in Industry of the American Academy of Ophthalmology and Otolaryngology, the Acoustical Society of America and the Council of Physical Medicine and Rehabilitation. The results of the meeting were gratifying to the medical, engineering and insurance representatives who attended. This session emphasized the need to measure environmental noise levels with special reference to various bands in the sound spectrum where greatest exaggeration has existed; to establish audiometric testing programs as a part of the medical examination in the selection and placement of workers, and to devise a better method than now exists for determination of degrees of hearing loss. All of these matters are being considered by appropriate subcommittees. One specific conclusion was that the diagnosis of occupational deafness must be dependent upon preemployment audiographic records.

THE OLDER WORKER

A Conference on Aging conducted by the Federal Security Agency in Washington last year called attention to the ability and capacity of older individuals for employment. This same problem has been discussed at a number of important conferences during the year, in all of which the Council staff has actively participated. An intensive study of the older worker in relation to employment, similar to the study of women conducted during the last war, is being actively considered.

The Council has agreed to serve as consultant to the Department of Sociology and Anthropology of Cornell University in connection with a survey which concerns itself with individuals approaching the statutory retirement age of 65, and a follow-up after retirement.

CHRONIC ILLNESS

The important relationship of chronic disease to work capacity, absenteeism and labor turnover has proved to be an important link between the Council and the Commission on Chronic Illness. In March 1951 at the first national conference of the Commission, occupational diseases were placed at the head of those in which primary preventive measures are particularly effective. Time was also devoted to secondary prevention, which includes early detection and adequate treatment of disease to stop or control its advance. A consideration of mass screening programs such as are relatively common in industrial health services led to the conclusion that much more study and practice in this field is necessary before a considered opinion could be formulated.

HUMAN RELATIONS

In accordance with instructions from the House of Delegates, the Committee on Human Relations has been formed. Some difficulty has been experienced in securing membership representing the various professions and academic disciplines desired by the Council. On Sept. 3, 1951 the Committee met with representatives of the Industrial Section of the American Psychological Association. At this meeting the discussion was centered on the subject of human factors as exemplified by motivation, morale, attitudes and emotional stability of persons as individuals as well as members of groups in relation to industrial productivity, selection and placement procedures, including follow-through on performance, and the occurrence of accidents. Consideration was given particularly to the role of "industrial physicians" in the teamwork required in industrial organizations for establishing and maintaining a high level of satisfactory human relations practices. Further there was discussion about educational methods for physicians to prepare them for interdisciplinary approaches in dealing with the problems mentioned above. Suggestions emerged from this meeting which may clear the path for fruitful results.

WORKMEN'S COMPENSATION

Further effort is being made to carry out the directive received from the House of Delegates respecting the study of medical relations to workmen's compensation administration, with assistance from the state medical associations, the International Association of Industrial Accident Boards and Commissions, the Industrial Medical Association and the American Academy of Compensation Medicine. The set of principles received from the Medical Committee of the International Association of Industrial Accident Boards and Commissions has been distributed to state medical associations as a basis for further discussions with the applicable compensation authority.

The resolution respecting free choice of physician under the regulations of the Federal Employees' Compensation Act has been referred back to the Council for additional study. A conference is being planned between the sponsors of the resolution, the Consultants on Workmen's Compensation to the Council and the Medical Director of the Bureau of Employees' Compensation of the U. S. Department of Labor.

ATMOSPHERIC POLLUTION

During the year advice has been given to the National Association of Smoke Abatement, the Air Pollution Committee of the American Association of Power Engineers, the Mid-Western Air Pollution Association and the Committee on Air Pollution of the American Society of Mechanical Engineers. Each of these technical organizations has been greatly interested in securing dependable medical consideration of important medical and health aspects. In general, the attempt has been made to discount certain alarmist trends and to base recommendations on proven evidence.

ENVIRONMENTAL HYGIENE

As authorized, the Council has established a Consulting Committee on Environmental Hygiene. An organization meeting has been held, at which time scope and function was outlined. Early attention will be given to lighting and vision, stress phenomena in man, selection and placement programs and pulmonary physiology with special reference to determination of desirability in industrial pulmonary disease.

REHABILITATION

The Joint Committee on Rehabilitation of the Council on Industrial Health and the Council on Physical Medicine and Rehabilitation was recently reactivated. Consideration will be given to physical restoration, vocational guidance and training and the proper placement of handicapped workers. Particular attention has been given to the increasing amount of legislation regarding rehabilitation and the need for a statement of policy which would enable legislative committees in the American Medical Association and in the state societies to analyze them intelligently.

EDUCATION

At the request of the Board of Directors of the American Academy of Occupational Medicine, an educational program has been approved which will be directed towards medical schools and local medical societies. It has been felt that the Academy could provide speakers in various parts of the country and that the Council could provide publicity and make arrangements for a series of lectures. During the year steps were taken to create an American Board of Occupational Medicine. The interim group contained representation from the Industrial Medical Association, the American Academy of Occupational Medicine, and the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association. A constitution and by-laws were approved calling for nominations to a Permanent Board, rotation of these same groups which in turn would define the character of training and experience needed to qualify for membership. The Council has no direct responsibility in the development of a certifying board although a number of its members have served in the organizational activity described.

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Report of Council on National Emergency Medical Service

This report of the Council on National Emergency Medical Service covers the period from Oct. 1, 1950 to Sept. 30, 1951. During this period, the activities of the Council have been increased and expanded to keep pace with the chaotic international situation. The continuance of the conflict in Korea and the increasing possibility of an all out war have served to underscore the need for accelerating civil defense planning and for developing and implementing sound policies and procedures for mobilizing the nation's medical manpower.

MILITARY AND SELECTIVE SERVICE ACTIVITIES

The employment of a large number of military and naval personnel in Korea and for occupation purposes in Europe and Japan has occasioned a reversion to the utilization of medical personnel on a wartime basis. The Council has, therefore, worked closely with the Surgeons General of the Armed Forces and the Armed Forces Medical Policy Council of the Department of Defense in an effort to (*a*) prevent a repetition of the medical overstaffing which occurred in certain areas during World War II; (*b*) curtail the utilization of medical personnel on nonprofessional assignments; (*c*) facilitate and increase the efficiency of the administration of the Doctor Draft Law (Public Law 779, 81st Congress, as amended), and (*d*) effect a timely and orderly system of recall and rotation of medical reservists.

Reports received from individual physicians and from official spokesmen for the Armed Forces indicate that there has been a marked improvement in the recruitment and the utilization of medical personnel. It is also readily apparent, from official medical reports from the Korean theater, that the quality of medical care being furnished is far superior to that furnished during any other period of our nation's history.

The Council has attempted to insure a proper balance between the medical needs of the civilian population and the serious and pressing demands for physicians by the Armed Forces by working closely with the Health Resources Advisory Committee and the National Advisory Committee to Selective Service System on a national level and with the State Advisory Committees to Selective Service on a local level. In addition to participating in general planning and policy formulation of this type, the Council has brought numerous deserving individual cases to the attention of local advisory committees and has thereby insured their proper and equitable disposition.

A continuing effort on behalf of the Council has contributed, in a large measure, to the adoption of the following two policies by the federal government:

1. The transfer of seriously disabled service personnel to Veterans Administration hospitals and domiciliary centers. This policy has resulted in a more efficient use of such veterans facilities and the reduction of the need for additional military medical installations.

2. The utilization of civilian physicians, with reserve commissions, in the performance of induction and periodic reserve physical examinations. This procedure reduces the number of physicians required in the Armed Forces and permits the individual physician to earn point credits under the provisions of Public Law 810, 80th Congress.

An analysis has been made of existing provisions of law granting medical benefits to dependents of service personnel and of proposals to extend such benefits. It is the belief of the Council that wholesale extensions of such benefits to the dependents of military personnel without regard to need or the availability of private medical facilities and to the civilian employees of the Government, as have been proposed, would in actuality be a step toward the socialization of medical care.

On Aug. 17, 1951 the Chairman and other members of the Council appeared before the National Security Training Commission and made extensive recommendations with respect to the following health and medical aspects of Universal Military Training:

(*a*) The continuation of preprofessional and professional education for qualified students.

(*b*) The method of performing preinduction, induction, and periodic reserve physical examinations.

(*c*) Extent of medical services to be provided for members of the national security training corps.

(*d*) Eligibility of members of national security training corps and reserve components for veterans medical benefits.

(*e*) Source and selection of medical and allied professional personnel to man the program.

The proposals of the Council were well received by the Commission, which will recommend the framework of a Universal Military Training Program to the Congress in the near future, in accordance with Public Law 51, 82nd Congress.

CIVIL DEFENSE ACTIVITIES

As a result of the acceptance of the theory of total war by certain countries, the tremendous increase in the areas of wartime operations and the introduction of new weapons of mass destruction, it is imperative that the medical profession continue and accelerate its integration into national and local civil defense medical planning. An appreciation of the seriousness of the present international situation and an understanding of the management and manner of caring for the casualties which would result from an atomic, biologic or chemical attack are two of the most important challenges facing American medicine.

In an effort to sponsor an educational program with respect to the medical aspects of civil defense, the Council has continued to maintain close and constant liaison with the Federal Civil Defense Administration. The information received from this and other sources has been disseminated to the membership of state medical societies through the state emergency medical service committees. An effort has been made to obtain all civil defense medical literature and local civil defense plans, which in turn have been distributed for the information and guidance of the state emergency medical service committees.

Beginning with the first week of May, a weekly Information Memorandum has been distributed to the members and consultants of the Council, advising them of the latest civil defense developments and furnishing them with copies of the most recent civil defense publications. A similar News Letter is dispatched on a monthly basis to a mailing list of over five hundred persons, mainly the chairmen and members of state emergency medical service committees.

The Council is now in the process of preparing a bibliography of published material and in the establishment of a package library service in order to facilitate the furnishing of this literature to any interested physician.

During the month of January, 1951 questionnaires were sent to each state and territorial medical association for the purpose of determining the status of local civil defense medical planning and to obtain suggestions as to how the Council could be of greater assistance. Replies were received from all but six societies. Since the receipt of this information, frequent contacts had been made with the state emergency medical service committees to assist them in accelerating and perfecting their local planning. It is planned to canvass the state societies again within the next month to obtain a more up-to-date status report.

Three publications dealing with planning and organizing for radiological defense were prepared by Dr. George M. Lyon and published under the sponsorship of the Council. These publications, which received excellent reviews, have been requested by over 650 individuals and organizations. They are entitled:

Planning and Organizing for Radiological Defense in Civil Defense.

Training Plan, Courses in "Medical Aspects of Atomic Warfare," "Medical Aspects of Radiological Defense," "Radiological Defense (Monitors)."

Civil Defense Planning and Organization with Special Reference to Medical and Health Services, including Radiological Defense.

A series of ten technical articles dealing with the medical aspects of civil defense are currently being published in THE JOURNAL of the American Medical Association under the sponsorship of the Council. All of the articles have been submitted to THE JOURNAL and seven have been published to date. When the publication of the entire series is completed, it is planned to reproduce and distribute them in a booklet form. The articles are entitled:

Civil Defense Organization and Medical and Health Service in Civil Defense, by Dr. James C. Sargent.

Medical Aspects of Civil Defense in Biologic Warfare, by Dr. Victor H. Haas.

Local Tactical Planning and Logistics in Medical Aspects of Civil Defense, by Dr. Perrin H. Long.

Chemical Defense, by Colonel John R. Wood.
Atomic Burn Injury, by Dr. Everett Idris Evans.
Radiological Aspects of Civil Defense, by Dr. George M. Lyon.
Atomic Burn Injury: Radiation, by Drs. Charles L. Dunham, Eugene P. Cronkite, George V. LeRoy, and Shields Warren.
The Nature of Air-Raid Casualties, by Dr. Cortez F. Enloe Jr.
Psychological Defense, by Dr. Ozro T. Woods.
Atomic Bomb Injury: Mechanical Injuries, by Dr. F. A. Simeone.

The Council is currently engaged in preparing for a National Medical Civil Defense Conference to be held in Chicago on November 9 and 10. The Conference, which will be sponsored jointly by the American Medical Association, the American Hospital Association and the Association of State and Territorial Health Officers will be held for the purpose of accelerating the coordinating local civil defense planning. One of the primary purposes of the meeting is to bring together the state health officers and representatives from each state hospital and medical society. It is believed that the Conference will result in a real service in the terms of effective civil defense medical planning.

Report of the Bureau of Legal Medicine and Legislation

It is with a feeling of deep personal loss that the Bureau reports the death of Mr. John F. Hayes, Washington, D. C., on Monday, Sept. 17, 1951, at the age of seventy-three years. John Hayes, a lawyer, had been associated with the Association since 1920 and with the Bureau since 1933, assembling information in Washington of interest to medicine and executing with dispatch and intelligence the many requests that have been submitted to him during all of these years.

As has been the case in prior report periods, the Bureau of Legal Medicine and Legislation during the past year has carried on extensive correspondence on a variety of subjects in the field of legal medicine with constituent state and component county medical associations, with individual physicians, with lawyers and others. Relatively few inquiries have permitted what might be called stock or form answers. By far the majority have required and were given individual and specialized attention.

The brief library of the Bureau has been increasingly utilized by state medical associations, and several new briefs have been added to it during the year thus increasing its value.

An article on the medicolegal aspects of artificial insemination was completed for publication in the Sept. 15, 1951, issue of THE JOURNAL. Among the many correspondents who have written the Bureau about this subject during the year were the Spanish Embassy in Washington, D. C., and a special committee appointed by the Swedish government, which, in concert with similar Danish, Finnish and Norwegian committees, is undertaking to formulate uniform Scandinavian legislation to clarify some of the legal uncertainties that arise out of this procedure.

The Bureau has continued to collaborate with the Committee on Legislation in its appraisal of federal legislation and with the Committee on Medicolegal Problems in relation to the many matters that properly come within the orbit of the committee's concern. The Director of the Bureau is a member of the latter committee and functions as its secretary. The Director, during the year, was also designated as a member of the Headquarters Committee on Antivivisection.

RETIREMENT BENEFITS FOR PHYSICIANS

At the Atlantic City 1951 session the House of Delegates requested the Board of Trustees to continue its support of proposals to establish a procedure whereby physicians and members of other professional groups may during their most productive years provide retirement benefits with income the tax on which would be deferred until the benefits are received. The House specifically requested that special consideration be given to any legislation developed or approved by the American Bar Association.

In March, 1950, a Special Committee on Retirement Benefits for Lawyers was created pursuant to a resolution of the Board of Governors of the American Bar Association. This Committee collaborated with similar committees of the New York State Bar Association and the Association of the Bar of the City of New York in drafting appropriate legislation which was introduced in the Congress June 7 of this year as H. R. 4371, by Congressman Keogh, and as H. R. 4373, by Congressman Reed. Subsequently, on July 25 Senator Ives introduced the substance of the Keogh-Reed legislation as an amendment to H. R. 4473, the revenue bill which had then already passed the House of Representatives. This move was made to expedite, if possible, congressional consideration of the retirement benefits proposal. Apparently, the Senate Finance Committee, before which the revenue bill was pending, did not feel that the time was sufficient to give the Ives Amendment the consideration it merited, because of the need of prompt enactment of the revenue bill. The committee, therefore, referred the subject to its technical staff for study and report. Indications are that the objective of this legislation will be given serious consideration at the next regular session of the Congress which convenes in January, 1952.

State medical associations were promptly advised concerning the pendency of the Ives Amendment and statements were filed with the Senate Finance Committee on behalf of the Association in support of the objectives of the amendment. The Directors of the Bureau of Medical Economic Research and of the Bureau of Legal Medicine and Legislation have continued their contacts with representatives of the American Bar Association with respect to this proposal and will continue to do so.

In a report submitted to the House of Delegates of the American Bar Association, dated Sept. 17, 1951, its Special Committee on Retirement Benefits thus briefly described the provisions of the pending legislation:

"The gist of the House Bills 4371 and 4373 is to permit a taxpayer who is a member of a bona fide agricultural, labor, business, industrial or professional association to pay into a trust fund forming part of a retirement plan set up by such an association an amount in any one year not exceeding 10% of his earned income, but in no event more than $7,500, and to receive a deduction for federal income tax purposes for such amount so paid in. The Trustee managing such a trust, which has to be a bank which is a member of the Federal Reserve System, will then invest the amounts received by it in securities legal for trust funds. Upon retirement or death, the amount invested by the taxpayer, with accumulations, is paid back in accordance with the particular plan under which the payments were made, and such payments back are then subject to tax under the Revenue Code."

On the basis of this report, the following resolutions were adopted by the House of Delegates of the American Bar Association on September 18:

"*Resolved*, that the American Bar Association approve in substance the Keogh and Reed Bills, H. R. 4371 and H. R. 4373, respectively, and the amendment of Senator Ives introduced on July 25, 1951 to H. R. 4473.

"*Be It Further Resolved* that a copy of the foregoing Resolution and the annexed report be sent to the President of the United States and to each Senator and Member of the House of Representatives thereof, and that proper representation of the foregoing Resolution be made by this Association before the appropriate Congressional committees."

DEDUCTIBILITY OF POSTGRADUATE EXPENSES

This is a progress report on the instruction given by the House at Atlantic City that further effort be made to obtain a reversal of the existing rule that expenses incurred in pursuing postgraduate medical study are personal in nature and as such are not deductible for federal income tax purposes.

Since this action was taken by the House, a complicating situation has arisen in the form of a decision by the United States Tax Court involving a professor at the Catholic University of America. During the summer of 1947, this professor undertook a European trip for study and research. He claimed the expenses of this trip as a deduction in his federal income tax return for the year, contending that the trip was taken to increase his prestige, improve his reputation for scholarship and learning and better to fit him for the duties he was employed to perform. The Commissioner of Internal Revenue disallowed the deduction and the Tax Court upheld the Commissioner on the ground that the expenses were personal and not ordinary and necessary expenses incurred in carrying on a trade or business, including a profession. Information is not now available to indicate if the professor intends to appeal to the law courts. Copies of the briefs filed in this case have been obtained by the Bureau and are being studied. In the meantime, a preliminary

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conference has been held with tax counsel in Washington and consideration is being given as to the best procedure to follow in having the existing rule reviewed and reversed. Indications are that it may be necessary to initiate a test case which will entail the cooperation of some physician who has been denied the right to deduct expenses incurred for postgraduate study. The House of Delegates will be kept informed with respect to future developments.

LICENSURE OF PSYCHOLOGISTS

The report of the Bureau for last year recorded the appointment of a special committee by the Section on Nervous and Mental Diseases to study the matter of licensure or certification of psychologists by state law. The Director of the Bureau was asked to serve on this committee. During the first half of this year, a considerable amount of literature on the subject was assembled and reviewed by the Committee. The Bureau prepared in chart form a comparative analysis of the laws of the five states that have enacted legislation of this type to date, Connecticut, Georgia, Kentucky, Minnesota and Virginia. A bill was passed by the New York Legislature dealing with the subject but was vetoed by Governor Dewey. Similar legislation also failed enactment in 1951 in Florida, Missouri, New Jersey and Pennsylvania.

At the Atlantic City, 1951, meeting the Special Committee submitted its report to the Section. This report reviewed the fundamental issues of the question it had had under consideration and concluded with certain recommendations which may be summarized as follows:

1. That the certification, rather than the licensure, of psychologists be recommended at this time.

2. That the private practice of psychotherapy by psychologists should be under psychiatric supervsion.

3. That the Bureau of Legal Medicine and Legislation be requested to make a study of the medical practice acts of the several states to ascertain if the practice of psychotherapy is covered by them and if not, that steps be taken looking toward amendments to include the categories of mental therapy for which technics have been developed within the field of psychiatry.

4. That the laws enacted in the five states concerning the licensure or certification of clinical psychologists be studied specifically to determine how well their provisions accord with the principles set forth in the report; that the practice of psychologists under the terms of these laws be observed carefully; and that if necessary action be taken to amend the laws to bring them in conformity with the suggestions contained in the report.

5. That all proposed legislation for the certification or licensure of psychologists be carefully studied by the Bureau to determine if it is in accord with the recommendations of the Committee and that it be compared with the medical practice act of the state in which it is proposed in order to determine if there can be a better overall coordination between the provisions of the proposed legislation and the medical licensure law.

The Section voted to accept the report of its Special Committee and that report will be published in THE JOURNAL in the near future. Reprints of the report will be made available by the Bureau.

The Section also created a continuing committee to serve in an advisory capacity to the Bureau and to report at each annual meeting of the Section on developments relating to the legal aspects of the practice of clinical psychology.

Legislation of the type under consideration may be anticipated in any state. On request, the Bureau can supply information that will aid state medical associations in appraising such legislation, including (1) a comparative analysis of existing laws, (2) reprints of the report of the Special Committee of the Section on Nervous and Mental Diseases, and (3) reprints of an article entitled "Regulation of Psychological Counseling and Psychotherapy" that appeared in the April, 1951, issue of the Columbia Law Review.

COURT DECISIONS OF MEDICOLEGAL INTEREST

During the year the Bureau has supplied abstracts of court decisions of medicolegal interest for publication in THE JOURNAL. The following cases decided since the last report warrant brief review.

The Supreme Court of Florida construed provisions of the Massage Registration Act of 1943 as not requiring a license to practice massage by a person whose business involved only the use of mechanical equipment, electrically operated, which he applied to the human body for slenderizing purposes. The apparatus did not massage the body; it caused a gentle vibration.[1] An undertaker who studied anatomy, chemistry and various premedical courses in an embalming school was qualified to give an opinion in court as to cause of death, according to the Court of Criminal Appeals of Texas.[2] The Appellate department, Superior court, Los Angeles, Calif., held that a license to practice chiropractic "as taught in chiropractic schools and colleges" did not authorize a chiropractor to practice medicine even though chiropractic schools chose to teach medical subjects under the guise of chiropractic.[3]

The use in court of the results of various scientific tests was considered in a number of cases. In a case of assault with intent to rape, the Supreme Court of Pennsylvania held that the results of a blood typing test were admissible in evidence over an objection by the defendant that to do so violated his constitutional privileges against self-incrimination.[4] In an Oklahoma case, the Criminal Court of Appeals sustained the action of a trial court in refusing to permit the defendant in a rape case to show his voluntary submission to both a lie-detector test and a truth serum test and that the results of such tests were negative.[5] The district court of appeals, 2nd district, division 2, California, decided, in relation to lie-detector tests, that the systolic blood pressure deception test for determining the truthfulness of testimony has not yet gained such standing and scientific recognition as to justify the admission in evidence of expert testimony deduced from such tests.[6] The supreme court, appellate division, 1st department, New York,[7] and the supreme court, special term, Bronx County, New York,[8] both held that medical testimony relating to the results of blood grouping tests to determine the exclusion of paternity should not be ignored when the evidence shows the tests to have been made properly. Furthermore, in New Jersey the superior court, chancery divsion,[9] and the superior court, appellate divsion,[10] granted motions by defendant husbands to compel their wives and reputed children to submit to blood grouping tests. The domestic relations court of the city of New York held that tests to determine sterility have not been developed to the same degree of scientific certainty as paternity tests and therefore should not be given the same weight in court.[11] On the question of chemical tests for intoxication, a subject often referred to in the annual reports of this Bureau, the Supreme Court of Indiana [12] and the Court of Criminal Appeals of Texas,[13] held the results of such tests to be admissible in evidence.

The Supreme Court of Ohio held that the estate of a child who, while viable, suffered a prenatal injury through another's negligence and who, about three months after birth died as a result of such injury, may maintain a cause of action against the negligent party for damages for the benefit of the parents.[14] In two cases [15] the Supreme Court of Washington ruled that a drugless healer, when he knows or should know that his method of treatment will not be productive of reasonable success, has the duty to so advise his patient so that other relief may be sought. The court of appeals of Tennessee held that a chiropractor may not practice medicine and surgery merely because the chiropractic act does not prohibit it. The licentiate must still practice only chiropractic as defined by the statute since the law is prohibitive as well as definitive.[16] The Supreme Court of

1. *Florida Board of Massage v. Underwood*, 45 So. (2d) 184.
2. *Murria v. State*, 227 S.W. (2d) 537.
3. *People v. Mangiagli*, 218 P. (2d) 1025.
4. *Commonwealth v. Statti*, 73 A. (2d) 688.
5. *Henderson v. State*, 230 P. (2d) 495.
6. *People v. Wochnick*, 219 P. (2d) 70.
7. *Commissioner of Welfare of City of New York ex rel. Tyler v. Costonie*, 97 N.Y. Supp. (2d) 804.
8. *Scalone v. Scalone*, 98 N.Y.S. (2d) 167.
9. *Anthony v. Anthony*, 74 A. (2d) 919.
10. *Cortese v. Cortese*, 76 A. (2d) 717.
11. *Houston v. Houston*, 99 N.Y.S. (2d) 199.
12. *Willennar v. State*, 91 N.E. (2d) 178.
13. *House v. State*, 233 S.W. (2d) 862; *McKay v. State*, 235 S.W. (2d) 173.
14. *Jasinsky v. Potts*, 92 N.E. (2d) 809.
15. *Kelly v. Carrol*, 219 P. (2d) 79; *Carney v. Lydon*, 220 P. (2d) 894.
16. *Janeway v. State Board of Chiropractic Examiners*, 231 S.W. (2d) 584.

California reversed an appellate court decision referred to in the last annual report of the Bureau and held that the property of a charitable hospital used for a thrift shop is not exempt from taxation even though the income therefrom is wholly used for charitable purposes.[17] The Supreme Court of the United States held that the Federal Government is not liable, under the Federal Tort Claims Act, for injuries to servicemen attributed to alleged negligent treatment given by army surgeons.[18] It is discriminatory to make a lay laboratory pay a sales tax for x-ray film used by it and to exempt from such tax hospitals and x-ray laboratories not under lay control, according to the district court of appeals, 2nd district, division 1, California.[19] The Supreme Court of the United States upheld the validity of the Marihuana Tax Act as a legitimate exercise of the taxing power, despite the act's collateral regulatory purpose and effect.[20] The Supreme Court of Mississippi held that the existence of outstanding capital stock did not necessarily disqualify a hospital as a "non-profit corporation." [21] A mechanotherapist, according to the Supreme Court of Ohio must not prescribe or administer drugs of any kind in performing minor surgery. The minor surgery which is performed must be an operation within the limits of mechanotherapy, and vitamins, liver extract, sulfathiazole ointment and metycaine are drugs within the meaning of the Ohio law.[22] The Court of Appeals of Maryland held that, under the facts shown, a chiropractor could maintain an office in the basement of his home, even though the deed to the property on which the home was erected contained a restriction that it "shall be occupied and used for residence purposes only and not otherwise." [23] The United States district court, district of Oregon, held that the Oregon State Medical Society, the Oregon Physicians Service and a number of individual physician defendants did not, in the organization and operation of Oregon Physicians Service, conspire to restrain and monopolize prepaid medical care in the state or the prepaid medical business in the areas in which it operated. The court also held that the practice of medicine as conducted by the doctors in the state and the sale of medical services as conducted by doctor-sponsored organizations within the state, are not trade or commerce within the commerce clause of the Constitution or within the Sherman Anti-Trust Act.[24] In Texas, the State Medical Association joined with two county societies in a statement that certain advertisements of the Committee for Chiropractic Education, Inc., were "a paid 'special edition' packed with misrepresentations. However, it was written to look like a real news section so that its misrepresentations might appear to be legitimate." The court of appeals held in effect that such a statement was libelous per se.[25]

Two decisions involved the right of the governing board of a governmental hospital to dismiss physicians from staff membership. The Supreme Court of Wisconsin held of no effect a resolution adopted by a municipal hospital permitting the board to dismiss a physician from the staff when, in its sole judgment, the good of the hospital or of the patients demanded it. The decision was grounded on the failure of the resolution to provide for (1) notice to the physician of the nature of the charges against him or (2) notice to the physician of the date of a hearing at which he could appear and defend himself.[26] The Supreme Court of Arizona held a resolution of a county hospital void for the same reasons. It also held to be so unreasonable as to be unconstitutional a resolution of the hospital which provided that if any doctor using the hospital facilities requests another doctor, also using such facilities, to assist him professionally, and that doctor refuses to give such assistance, then the physician so refusing would not be allowed to use the hospital facilities thereafter.[27] In another Arizona case, the Supreme Court held that naturopaths may not use drugs in the practice of their branch of the healing art.[28] The same court also expressly overruled one of its prior decisions and held that charitable institutions (in this case a hospital) are liable for the torts of their servants from which injury results to a third person, whether or not such third person is a patient and whether or not such patient is a paying or a non-paying one.[29] The United States district court in Iowa held that the earnings of a nonprofit organization did inure to the benefit of indivdual members when such members were reimbursed for expenses of litigation and for judgments rendered against them. The organization was held not to be exempt from the payment of a capital stock tax.[30]

17. *Cedars of Lebanon Hospital v. Los Angeles County*, 221 P. (2d) 31.
18. *Jefferson v. United States, United States v. Griggs*, 71 S. Ct., 153.
19. *Maranville v. State Board of Equalization*, 222 P. (2d) 898.
20. *United States v. Sanchez*, 71 S. Ct., 108.
21. *Craig v. Mercy Hospital-Street Memorial*, 47 S. (2d) 867.
22. *Botkin v. State Medical Board*, 96 N.E. (2d) 215.
23. *Osborne v. Talbot*, 78 A. (2d) 205.
24. *United States v. Oregon State Medical Society*, 95 F. Supp., 103.
25. *State Medical Association of Texas v. Committee for Chiropractic Education, Inc.*, 236 S.W. (2d) 632.
26. *Johnson v. City of Ripon*, 47 N.W. (2d) 328.
27. *Findlay v. Board of Supervisors*, 230 P. (2d) 526.
28. *Kuts-Cheraux v. Wilson*, 229 P. (2d) 713.
29. *Ray v. Tucson Medical Center*, 230 P. (2d) 220.
30. *National Chiropractic Association v. Birmingham*, 96 Fed. Supp. 874.

STATE LEGISLATION IN GENERAL

The annual summary of state laws of interest to medicine prepared by the Bureau will be published in THE JOURNAL in the near future. Reference is here made to some of the more important 1951 enactments.

Basic Science Acts.—A new basic science law was enacted in Nevada, bringing the total to nineteen states, the District of Columbia and Alaska. An amendment to the Arizona basic science act exempts physicians employed full time by federal and state hospitals and by federal, state or local health departments. A Wisconsin amendment exempts dental hygienists. A Texas amendment permits the issuance of temporary licenses effective until the next regular meeting of the board of basic science examiners.

Laws Relating to Limited Practitioners.—A state board of chiropractic examiners was created in Pennsylvania. By this law chiropractic is defined as a system of locating misaligned or displaced vertebrae of the human spine, the examination preparatory to and the adjustments by hand of such misaligned or displaced vertebrae and other articulations together with the use of scientific instruments of analysis as taught in approved schools and colleges of chiropractic without the use of either drugs or surgery. The term "chiropractic" does not include the practice of obstetrics or reduction of fractures or major dislocations. An amendment to the Nevada chiropractic act provides for the licensing of persons desiring to practice chiropractic physical therapy which is defined to be the adjustment of the articulations of the human body by hand and the use of electrical, mechanical, hygienic and sanitary measures, which measures do not pierce or sever the body tissues. A Florida law provides that no person shall operate a chiropractic hospital without first obtaining a license to do so from the Florida state board of chirpractic examiners.

Two Pennsylvania laws relate to the practice of osteopathy. One defines the word "physician" as an individual licensed under the laws of the state to engage in the practice of medicine and surgery or in the practice of osteopathy or osteopathic surgery. The other defines the word "medical examiner" in connection with private and parochial school examinations as including licensed physicians qualified to practice medicine and surgery or osteopathy or osteopathic surgery.

Although two other states were asked to do so, only Oregon enacted a law providing for the creation of a state board of examiners in massage. This law defines massage as pressure on, friction against, stroking and kneading the body and gymnastics with or without such appliances as vibrators, infra-red heat, sun lamps and baths in order to maintain good health and to establish and maintain the body in good physical condition, provided that no person licensed under this act may give chiropractic adjustment, osteopathic manipulations or naturopathic manipulations.

Florida, Georgia, Illinois, Minnesota, New Hampshire, New Mexico and North Carolina enacted either registration or licensing laws to regulate the practice of physical therapy. In general, these laws define physical therapy as the treatment of disability, injury and disease by nonmedical means comprising the use of massage, therapeutic exercises and the physical, chemical and other properties of heat, light, water and electricity (except roentgen rays, radium and electrosurgery). All of these laws provide, in effect, that registrants thereunder shall practice as physical therapists only under the prescription, direction and supervision of a licensed physician. A Connecticut law authorizes the Board of Trustees of the University of Connecticut to offer

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instruction in physical therapy as a part of the university program and to grant suitable degrees therein.

Georgia and Minnesota enacted laws creating a state board of examiners of psychologists. The Minnesota law did not define psychology or psychologists, but the Georgia law defines a psychologist as a person who holds himself out to be an applied psychologist and renders to individuals or to the public for fees any service involving the application of recognized principles, methods and procedures of the science and profession of psychology, such as interviewing, administering and interpreting tests of mental abilities, aptitudes, interests and personality characteristics for such purposes as psychological diagnosis, classification or evaluation or educational or vocational placement or for such purposes as psychological counseling, guidance or readjustment. Nothing in the Georgia law permits the administration or prescription of drugs or the practice of medicine. A New York law amends the existing mental hygiene law in relation to certified examiners and certified psychhologists, by providing that such person must have had two years of post-graduate study in psychology including advanced courses in clinical and abnormal psychology and testing at an approved university or college and three years of full-time or equivalent part-time clinical experience in the psychological examination of children or mental defectives.

Medical Practice Acts.—The only state which enacted a complete revision of its medical practice act was Colorado. Some of the significant changes contained in this revision are: (1) two members of the board of medical examiners must hold the degree of doctor of osteopathy; (2) the new definition of practice of medicine specifically covers the treatment of mental conditions; (3) the definition of medical college includes colleges conforming to the minimum educational standards established by the American Osteopathic Association; (4) the definition of an approved internship includes internship in hospitals conforming to the minimum standard for intern training established by the American Osteopathic Association; (5) the definition of approved residency includes residency in hospitals conforming to the minimum standards for residency training established by the American Osteopathic Association; (6) interns and residents rendering services in hospitals in the state are specifically exempted from the medical practice act under prescribed conditions; and (7) pharmacology, chemistry, bacteriology, gynecology, therapeutics, public health and sanitation are added to the list of examination subjects.

A number of miscellaneous medical practice act amendments were enacted. In Florida, Oklahoma and Virginia annual registration laws were enacted. A California amendment defines the word "diagnose" or "diagnosis" to include any undertaking by any method, device or procedure whatsoever, whether gratuitous or not, to ascertain or establish whether or not a person is suffering from any physical, mental or nervous disorder. The taking of a person's blood pressure is specifically included. Oklahoma and Wisconsin enacted laws permitting the use of the injunctive process to restrain violations of the medical practice acts. Delaware, Illinois, Nevada, New Hampshire and Texas enacted laws authorizing the issuance of temporary certificates to practice medicine under prescribed circumstances. Alabama and Maine authorized their boards of medical examiners to issue reciprocity certificates in certain instances and a California amendment provides that the applicant for a reciprocity license must have had a license issued in some other state at least one year prior to the date of application for a California license.

In relation to internship, a new California law provides that applicants who graduated from a foreign medical school may, in lieu of a one year internship in a hospital approved by the board, complete a final year of medical instruction in an approved medical school in the United States, and Oregon eliminated the one year internship requirement as a condition of licensure. In Florida, California and Illinois the adjudication of insanity of a practitioner was made grounds for the revocation of the practitioner's license. A California law provides that any physician who while in actual attendance on patients is intoxicated to such an extent as to impair his ability to practice shall be guilty of a misdemeanor. Another California law provides that after 1955, applicants for a physician's and surgeon's certificate must present evidence of having completed a three year residence course of college grade before commencing the study of medicine. A Florida amendment requires applicants for a license to be citizens of the United States. Another Flordia law authorizes the board of medical examiners to pass upon the good standing and reputability of any hospital and to determine those which maintain a standard of training sufficient to be recognized by the board. A third Florida law provides that no person may be employed or act for more than three years, as a resident physician, assistant resident physician or intern without registering with the state board of health. To continue such employment beyond three years, the person must become duly licensed as a physician by the board of medical examiners. A New Mexico amendment provides that nothing in the medical practice act should be construed to prohibit any physician who has been lawfully licensed to practice in another state from entering into a contract with a New Mexico state institution to serve as a member of the medical staff exclusively, or from entering into a contract with an employer for the treatment of its employees only if such employer maintains a hospital for the benefit of its employees and if the physician submits proof that he has received a notification by the medical examining board of New Mexico that he possesses the necessary character and qualifications. A West Virginia amendment would admit to examination for a medical license persons graduating from a medical school after January 1, 1939, if they meet all the requirements of the law pertaining to education and training except that their medical school was not at the time of graduation a class A medical school as defined by statute. A Wisconsin law authorizes the board of medical examiners to accept, in lieu of its own examination, the certificate of the National Board of Medical Examiners.

Corporate Practice of Medicine.—A California law authorizes the board of medical examiners to grant approval of the employment of physicians and surgeons on a salary basis by licensed charitable institutions, foundations or clinics or by approved medical schools operating clinics therewith, providing no charge for professional services rendered to patients is made by the institution. A Connecticut law authorizes the incorporation of medical clinics. This law provides that any three or more persons licensed pursuant to the medical practice act may associate to form a corporation, without capital stock, to own, operate and maintain a clinic for the study, diagnosis and treatment of human ailments and injuries by persons duly licensed and to promote medical, surgical and scientific research and learning provided that such corporation may not itself give medical or surgical treatment, consultation or advice and provided that persons duly licensed, and no others, may be members of such corporation. Before commencing operations, such corporations must receive a certificate of registration from the Connecticut medical examining board, which certificates shall be renewed annually.

Barbiturates and Other Drugs.—Laws prohibiting the sale of certain drugs except on the written prescription of a physician were enacted in Arkansas, New Mexico and Texas. The Arkansas law amends the 1935 law which applied only to the barbiturates by adding amphetamine and desoxynor-ephedrine. The New Mexico law makes it unlawful for any person to sell any dangerous drug except on the prescription of a licensed physician, dentist or veterinarian, with exceptions relating to wholesalers, and defines the term dangerous drugs as including hypnotic drugs (acetylurea derivatives, barbituric acid derivatives, chloral, paraldehyde, phenylhydantoin derivatives, sulfonmethane derivatives) aminopyrine, cinchophen, diethylstilbesterol, ergot, cotton root, sulfanilamide, thyroid, and compounds of any of these drugs. The Texas law makes it unlawful to sell or deliver any barbituric acid, amphetamine and desoxyephedrine except by a pharmacist upon an original prescription of a physician, dentist, chiropodist or veterinarian.

Hospital Licensing Laws.—Michigan, Nevada, New York and Washington enacted either amendments or new laws relating to the licensing of maternity hospitals. A new Washington law provides regulations for the licensing and regulation of nursing homes and a Wisconsin revision of the law relating to the licensing of nursing homes provides for the use of the injunctive process against any person or agency operating such a home without the required license. A California law authorizes the

State Deparment of Public Health to prescribe minimum standards for public medical institutions and to certify to the State Department of Social Welfare those institutions which meet the standards established.

Anatomic Acts; Testamentary Disposition of Body.—Laws providing for the distribution to certain research and educational institutions of unclaimed dead human bodies, under certain prescribed circumstances, were enacted in Arizona, Florida, Kansas and Wisconsin. A North Carolina law authorizes a person by will to dispose of a whole or a part of his or her body to a teaching institution, university, State Department of Health, legally licensed hospital or any other agency or commission authorized to operate an eye bank, bone or cartilage bank, a blood bank or any other bank of a similar nature and kind designated for the rehabilitation of the maimed.

Animal Experimentation.—Laws relating to animal experimentation were enacted in California, Illinois, Oklahoma and South Dakota. In general, these laws authorize a particular department of the state government to issue licenses to certain qualified institutions desiring to obtain and use animals in the conduct of scientific and educational activities.

Blood Grouping Tests.—A Pennsylvania law provides that in any proceeding to establish paternity the court on motion of defendant shall order the mother, her child and the defendant to submit to one or more blood grouping tests by a duly qualified physician to determine whether or not the defendant can be excluded as being the father of the child, and the results of such tests may be received in evidence in cases where definite exclusion of the defendant is established.

Prepayment Medical and Hospital Care Programs.—An Illinois law provides for the incorporation of lay sponsored voluntary health services plans which need not obtain the cooperation of a majority of the resident doctors in any county in which it proposes to operate. A Connecticut law would permit nonprofit medical service corporations to make payment for the professional services of dentists. A Kansas law amending the nonprofit medical service corporation acts, set up provisions relating to the establishment of reciprocity benefits which may be applicable to employees of corporations transacting business in Kansas. A West Virginia law provides, among other things, that hospital and medical nonprofit corporations must provide, in their contracts, that in case of a deficit of available funds, each participating hospital or physician will accept a prorata share of available funds in full settlement of any bill submitted. An Illinois law provides new regulations for the organization of nonprofit hospital service corporations.

Medical Examiners; Autopsies.—An Arkansas law establishes the office of state medical examiner and prescribes the powers and duties of such medical examiner with respect to investigations and autopsies. The law provides that the state medical examiner shall be the head of the department of pathology of the University of Arkansas Medical School and that there shall be established a laboratory having adequate facilities for the conduct of autopsies and of such pathological, bacteriological, toxicological examinations as may be necessary or proper. Two Florida laws concern the appointment of county medical examiners and the duties of such medical examiners relating to autopsies and investigations of death. Another Florida law authorizes certain county judges and county solicitors throughout the state to secure the services of a physician in connection with the investigation of crime. A New Jersey law authorizes county physicians to perform autopsies or to direct some licensed physician to do so when in the opinion of the county physician an autopsy is necessary to determine the cause of death. A South Dakota law sanctions the performance of an autopsy by a physician or surgeon when authorized (*a*) by the deceased during his lifetime, (*b*) by the deceased's surviving spouse or (*c*) if the surviving spouse is incompetent or not available or if there be no surviving spouse, by an adult child, parent, brother or sister of the deceased. An Alabama law directs the state toxicologist to furnish a certified copy of any investigation which he conducts, to the person who orders the investigation, and provides further that original copies of such reports shall be retained by the state toxicologist and shall be open to public inspection at all reasonable times.

REBATES

In July, 1946, the United States filed complaints against certain optical companies and more than 4,000 individual physicians charging the defendants with a violation of the Sherman Anti-Trust Act for engaging in rebating practices in connection with the dispensing and sale of eye glasses. In May, 1951, almost five years later, final judgments were approved and entered in these cases. These final judgments enjoined the individual and corporate defendants from accepting or paying, directly or indirectly, any such rebates in the future. Existing laws in a number of states also specifically prohibit the paying or accepting of rebates. During the past year the Bureau brought its comparative chart of these state laws up to date. Copies of this chart are available on request.

COOPERATION

This report would be incomplete if it did not give grateful acknowledgment of the helpful cooperation extended to the Bureau during the year, particularly by the Board of Trustees, the Secretary's Office, and members of the official staffs of bureaus and councils at headquarters. The Bureau hopes that it has, in its effort to reciprocate, met with success.

Report of the Bureau of Health Education

There have been no radical changes during the past year in the program of the Bureau of Health Education. The principal phases of activity continue to be the answering of questions by mail, preparation and distribution of radio transcriptions, preparation and broadcasting of network documentary programs, exploratory activities of the television field, the school health program, pamphlet publications, cooperative and liaison activities with other agencies, studies in school health procedures and studies in the teaching of preventive medicine in medical schools.

Today's Health and the Bureau continue to work in close cooperation, each supplementing the work of the other until they have become practically one unit.

QUESTIONS AND ANSWERS

Individual communications received and answered in the Bureau Department responsible for dissemination of health education information for lay consumption totaled 12,722 for the period from Sept. 1, 1950, through Aug. 30, 1951. Each was given individual screening, and in addition to personal replies special referrals were made to one or more of 26 national organizations concentrating on specific problems such as heart disease, diabetes, cancer, epilepsy, tuberculosis, etc.

With a slight increase in virtually all categories in which principal interest was displayed, there was some shift in popularity of individual topics. Mental hygiene took the lead followed by plastic surgery, allergy and child guidance. Interest in plastic surgery doubtless can be credited to newspaper accounts of methods for correcting scars and other skin blemishes. The only other new topic in the list was child guidance. Although inquiries about the American Medical Association and its services increased only slightly, continuing interest is evident.

In addition to literature sent on specific request, a variety of free material was mailed, principally to school teachers, in which chief emphasis was on general services of the Bureau and the interest of the American Medical Association in health education and community health services. Answers were provided for questions referred from various health museums and health exhibits presented under medical society or auxiliary auspices.

From the correspondence handled, questions and answers considered of sufficient general interest were selected for publication in *Today's Health*.

LOAN COLLECTIONS

Requests for material intended to assist physicians in the preparation of talks for lay groups came from 24 states and included 21 different topics. The subjects most in demand were medical advances, sex education, heart disease and cancer.

Encouraging evidence continues to be observed that more and more state medical societies are providing material of this nature for use by physician members as part of the greatly increased interest in promotion of sound health education and favorable attitudes on the part of lay groups.

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NEW ELECTRICAL TRANSCRIPTIONS

The following new radio transcription series have been prepared:

(*a*) *The Best Is Yet to Be.*—A 13-program dramatization series dealing with some of the problems of older people with emphasis on how they can live more successfully and more happily.

(*b*) *Hi-Forum.*—A unique series of documentary interviews tape recorded on the spot in fourteen American cities of all sizes and kinds in all parts of the nation. The teen age high school students, in discussion of their own most vital problems of physical and emotional health, are representative young Americans coming from large cities and farm communities, many races and religious, in a variety of social and economic backgrounds. Programs were planned in cooperation with high school faculty and youth leaders and high school and college radio workshops.

(*c*) *Main Street Medicine.*—A series of dramatizations giving the highlights typical of the progress which the "main street" communities in the United States are making by cooperative effort of many citizen groups toward providing better medical care and public health services at prices which bring these necessities within the reach of everyone.

(*d*) *Gold Medal Doctors.*—Each year since 1938 the American Medical Association has awarded a Gold Distinguished Service Medal to a physician for scientific achievement in the course of his life. These transcriptions are authorized biographies of the recipients of the award including recorded remarks in their own voices, where available.

Productions to be released during the remainder of 1951 consist of the following series: "Doctors Report" and "Panorama of Research."

"Doctors Report," released on Sept. 15, 1951, consists of 13 transcriptions recorded from the 100th annual session of the American Medical Association, which contain the latest advances in medical progress. The programs were selected from 24 recorded for the Voice of America and now being broadcast to English-speaking physicians in Europe, the Far East and Southwestern Asia.

Preparations have also proceeded for the release of "Panorama of Research," a narrated series by Cy Harrice with script by Farlan Myers.

A feature in preparation for 1952 is "Interlude." This series is a sequel to the successful transcription series, "Melody of Life" and presents the life stories of 13 composers with reference to their health and aging problems.

DOCUMENTARY RADIO PROGRAMS

The Bureau produced three documentary programs in the past year.

1. *Machines Without Men.*—A documentary radio poem on progress and industrial health starring Carl Sandburg, prepared under the supervision of the Director of the Bureau, together with Dr. A. J. Lanza, Chairman, and members of the staff of the Council on Industrial Health. This program was broadcast over the NBC network Sept. 7, 1950.

2. *The Wooden Fish.*—A special 30 minute dramatized program emanating from the World Medical Association Meeting last autumn. This program was released Oct. 19, 1950 and recordings of it were sent to all radio stations using the Bureau's electrical transcriptions. The World Medical Association meeting in New York last year was called to order by a gavel in the form of a fish. This symbol was presented to the association, which represent 500,000 physicians across the world, by the delegate from Nationalist China. It represents to Orientals the symbol of intelligence and energy, and it is also the symbol of ancient Christianity. The timeliness of this subject and its message in support of democracy and against communism created the incentive for this program. Reports indicate that this program was well received.

3. *School House Anywhere.*—The second documentary network program produced in 1951 utilized an unusual radio technic, featuring students of the New Trier Township High School, Cook County, Ill., Verse Choir as "Narrator." This program depicts problems and hazards concerning school children today. Mail requests for scripts and the excellent appraisal of this program by the general public and health educators throughout the country indicate that "Schoolhouse Anywhere" was well received.

RADIO PLATTER SERVICE

The electrical transcriptions distributed by the Bureau of Health Education have gone to varying numbers of stations annually. Usually between 300 and 400 stations carry the programs each year. There is adequate evidence that the electrical transcriptions perform a highly valuable continuing service from which the medical profession is reaping the good will of the radio stations and through which large audiences are being served, often in out of the way places not reached through other channels by the medical profession. In many instances newly established radio stations request our programs to be a part of their specially advertised opening broadcasts. Large numbers of commercial stations regularly place the programs on sustaining time in major population centers and often at the most favorable listening hours. In a few instances local commercial sponsors have been procured and these have been as continuously pleased with the platters as have the program directors of the stations.

In many cases the platters have been requested by and furnished to schools for use in the classroom, and several times cooperation has been established between broadcasting stations and school systems for in-school listening integrated with the health teaching curriculum. To the present knowledge of the Bureau, the platters are performing a useful service in health education and are keeping the name of the American Medical Association before the people in a constructive and favorable light.

In addition to distribution within the United States, the platters have been used in Alaska, Hawaii, the Philippines and the Canadian provinces of Ontario, Quebec and Alberta. Samples and scripts have gone all over the world in reply to requests received in response to announcements in radio trade publications and the educational press, as well as in publications of the United States Government. The National Association of Broadcasters has the platters on its list of recommended transcriptions as does the Federal Radio Education Commission of the U. S. Office of Education.

TELEVISION

The Bureau of Health Education produced one television show during the fiscal year. The program was entitled "Dr. Webb of Horseshoe Bend" and was telecast over WABC, television, New York, on Jan. 22, 1951 from 8:30 to 9:00 p. m. This half hour dramatic show, starring Walter Hampden, emphasized the importance of the general practitioner, and the problem of doctor supply in rural areas. Kinescopes (16mm sound tract films) were made available to local medical societies without charge, except return postage, for single showings in each television community. Considering that distribution of the "Dr. Webb" kinescope was utilized in more than two-thirds of the television outlets throughout the United States, the outcome of the Bureau's first venture in television production can certainly be termed satisfactory.

Early in 1951 the Bureau also released a series of twelve television scripts planned for local production. Each script package contains sufficient copies for studio use in production, as well as all necessary casting and prop lists. All illustrative material—including titles on slide film, drawings and photographs, charts, and so forth are likewise included in the script package. These materials are on loan at no charge to local medical societies and must be returned after use.

RADIO AND TELEVISION FROM CLINICAL AND ANNUAL SESSIONS

Radio and television service other than scientific telecasting in color in connection with the Cleveland Clinical Session and the Atlantic City Annual Session were handled, as usual, by the Bureau of Health Education.

In many instances the Bureau's materials were used by well-known broadcasters and telecasters, such as Arthur Godfrey, Edward R. Murrow, Pauline Frederick and Nancy Craig, on established programs with wide and regular listening audiences.

SCIENTIFIC BROADCASTS ON "VOICE OF AMERICA"

During the 1951 Annual Session of the American Medical Association, the Bureau of Health Education at the request of the United States Department of State made 24 tape recordings based on scientific exhibits or papers shown or read at the session. These are for broadcast to English-speaking areas overseas. Thir-

teen of the 24 tape recordings will be made into a special series of electrical transcriptions available in the United States to county medical societies about Sept. 15, 1951 on the usual basis of distribution of the electrical transcriptions prepared by the Bureau. This series will be entitled "The Doctor's Report."

SPECIAL BROADCASTS

The Bureau handled radio coverage for the Annual Congress on Medical Education and Licensure, held in Chicago in February, 1951. Ten visiting medical leaders and three members of the American Medical Association headquarters staff participated in four roundtable discussions, two radio interviews, a television show and two newscasts.

LOCAL RADIO BROADCASTS

Eighteen local broadcasts were given by the staff of the Bureau in connection with meetings they were attending in other cities and in Chicago.

HEALTH AND FITNESS DIVISION

The Health and Fitness Division now functions as an integral part of the Bureau of Health Education. Services to state and local medical societies and to educational, public health, voluntary and governmental agencies continue to be centered in the various fields of school health—school health services, school health education and healthful school living. The consultive team, consisting of a physician and educator, has aided materially in making the Association's services in this area acceptable to all of the professional interests involved.

During the past year the two consultants accepted invitations from 20 states and the District of Columbia to deliver addresses, take part in conferences or institutes, attend annual meetings of health, educational or other organizations and perform a variety of other services. In addition, Dr. Dukelow made several trips to Washington, D. C. to continue work begun earlier in 1950 on the Fact Finding Report for the Midcentury White House Conference on Children and Youth. He was also active in planning and conducting meetings at the Conference besides arranging for a preconference orientation session for physicians and medical society representatives who were delegates to the White House Conference. Dr. Hein worked closely during the year with a Joint Conference of representatives of the National Council of Chief State School Officers and the Association of State and Territorial Health Officers in the development of a statement on responsibilities in school health services and served on the editing committee of the group.

The Third National Conference on Physicians and Schools is to be held at Highland Park, Ill., Nov. 6 to 8, 1951, in response to numerous requests for the repetition of this Conference at two-year intervals. The Conference will be attended by representatives of interested national agencies and organizations as well as delegates from state and territorial medical associations, and health and education departments. The discussions will center on the relationship of the family physician and the school physician to school health services in health appraisal, follow-up of health needs of school age children, physical education including athletics, emergency care of injury and sudden illness and communicable disease control, and the implementation of these services at the state and local level. Several state and local conferences are scheduled to be held on the same subject, partly because of the encouragement this office has given to state and local groups to carry on the same thinking at home, and partly because of their interest in the reports of the National Conferences.

A nation-wide survey of school health services by means of a questionnaire to the secretary of each local medical society was completed early in the year. The consultants jointly reported the results of the survey at the 1950 annual meeting of the American Public Health Association. Copies of the complete report are available from the Bureau.

An additional study on the nature of medical school teaching of school health subjects and physician attitudes toward school health services is now under way. The survey is being conducted by means of interviews with professors of preventive medicine or other appropriate faculty members at medical schools. To date interviews have been completed at eight institutions. Because of the nature of the study and the relative slowness of the interview procedure the investigation is regarded as a long-term project which will no doubt require a number of years to complete.

The Consultants have continued to provide assistance to the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, as technical assistants to the several subcommittees. The Educational Consultant, Dr. Hein, is a member of the Joint Committee and its Secretary.

The Medical Consultant, Dr. Dukelow, has served in a consultive capacity to the Council on Medical Service's Committee on Maternal and Child Care. This arrangement has made possible close liaison between the activities of the Council in this field and those of the Bureau of Health Education in relation to school health programs.

Health education films, particularly those used for visual education in the schools, are an important educational medium. The Consultants review all such films coming to the Committee on Medical Motion Pictures to determine their technical accuracy and applicability. In addition they have aided various producers in the preparation of films and film strips for school use on health education subjects.

An important part of the consultation services are given to the conferences and institutes conducted by universities, teachers colleges, state departments of health and education and other agencies to improve the understanding of school health services and school health education.

The Educational Consultant was appointed by the Board of Trustees to represent the Association at the National Conference on Physical Education for Elementary School Children held in January of the past year where he served as Chairman of the Editing Committee. The Conference report presenting the combined viewpoint of parents, educators, specialists in child health and other interested groups has been described in an editorial in *Today's Health*. Similarly the Medical Consultant has participated in the activities of the American Academy of Pediatrics in its consideration of health problems in children's recreational camps and the revision of health examination forms used in such places.

As a means of promoting interprofessional and interagency relations between the American Medical Association and the educational and health agencies concerned with school health, community organization and health promotion, both Consultants are active in the work of many associations.

For the fifth year the consultants have prepared discussion questions on the articles in *Today's Health* to aid teachers in using the Association's health magazine as classroom health education material. The questions are developed for each issue published during the school year and sent to all interested schools.

The two exhibits on school health prepared in previous years are still in demand and are available for showing at annual meetings and conferences of interested organizations.

BUREAU PUBLICATIONS

Based on Order Department reports, the distribution of Bureau publications showed a significant increase this year. A total of 534,977 stock pamphlets and reprints of *Today's Health* articles were distributed.

Pamphlet advertising and promotion were given special attention during this period. By authorization of the Board of Trustees, advertising space was contracted for in outside publications and six two-thirds page insertions were made in *Today's Health*. While the direct sale of pamphlets from the advertising coupons was not substantial, catalog requests from the "Free For The Asking" columns were encouraging. Coupon sales represent individual orders, partly from teachers and industrial nurses who are prospective quantity purchasers.

Apart from advertising, the main pamphlet promotion effort was an industrial promotion campaign to reach nurses in industry for the large scale purchase of Bureau publications and subsequent distribution among industrial employees.

Forty-six new publications were added in the past year, including two mental hygiene booklets on infants and oldsters with pictures and captions in the "White Collar Zoo" style. Special,

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inexpensive, throw-away dodgers on heart disease, colds, good foods and weight reduction were prepared for use at state fairs and similar meetings. Twenty pamphlets were revised and three discontinued.

COOPERATIVE RELATIONSHIPS

National Conference on Cooperation in Health Education.—The annual meeting was held at the Cleveland Health Museum, Jan. 25 and 26, 1951, and was concerned mainly with the discussion of relationships of member agencies to various phases of health education work.

U. S. Children's Bureau Advisory Committee on Maternal and Child Health and Crippled Children's Services.—No meeting of the Advisory Committee was held during the year. The Committee had several *ad hoc* meetings of technical people on specific subjects. A five-day joint meeting with staff members of the Public Health Service, the Office of Education and the Children's Bureau was held during the week of Jan. 8, 1951, to discuss school health services.

American Public Health Association Committee on Professional Education.—This committee continues its work in the development of standards of education and performance for public health personnel, accrediting of schools of public health and attacks on the grave questions of personnel shortages, insecurity of tenure, political domination and inadequate remuneration, which seem to be the major obstacles toward the recruitment of properly trained personnel in adequate numbers. The annual meeting was held in St. Louis, Oct. 30, 1950.

American Association of School Administrators.—The second meeting of the Yearbook Commission to revise the 1942 Yearbook "Health in Schools" was held at American Medical Association headquarters in March. This Yearbook will be more of a rewriting than a revision, but like its first edition the book will contain material and will recommend policies and procedures highly acceptable to physicians. The book is scheduled to appear in November 1951.

National Committee on Boys and Girls Club Work (4-H Clubs).—The work of this committee proceeded as usual, with the annual meetings in December. The membership in Four-H Clubs continues to grow, and emphasis on the health aspects of the program is strong.

National Society for the Prevention of Blindness.—Meetings of the Board of Directors, on which the Director of the Bureau serves as a member, were held in New York, Dec. 14, 1950 and April 26, 1951.

American Diabetes Association.—The Director continues as liaison representative of the American Medical Association to the Board of Directors of the American Diabetes Association and has participated in policy discussions relating to the plan of organization, the early diagnosis campaign, and the educational activities of the Association.

American Cancer Society.—In November, 1950, the Director of the Bureau requested the Board of Trustees to withdraw his name from the Professional Education Committee of the American Cancer Society and substitute for him someone qualified in the field of medical education rather than health education of the public. The Board of Trustees appointed Dr. A. F. R. Andresen, Brooklyn, N. Y., to replace the Director.

National Congress of Parents and Teachers, Advisory Committee on Health and Summer Round-Up.—A meeting of this Advisory Committee was held in Chicago, April 17, 1951. The purpose of this meeting was to review material on health contained in the national chairman's "Plans of Work, 1949-52" with the idea of incorporating changes for publication in the next edition, to be printed in the Spring of 1953, as well as to review the more popular pamphlet on the Summer Round-Up of the Children. It was agreed that "Plans of Work" should include immunization against tetanus and a more specific definition of the age at which the various immunizating agents should be administered. It was agreed that an effort should be made by the subcommittee to obtain an acceptable joint opinion on the age of immunization from the American Public Health Association, the American Academy of Pediatrics, the American Medical Association and the U. S. Public Health Service. The importance was emphasized of good health appraisal practices and the possible conservation of physician time by allowing a single examination of health appraisal to serve for the school examination, preparation for athletic and physical education activities, preparation for camps and all of the other activities preceded by physical appraisal.

National Committee for Traffic Safety.—The Director of the Bureau was appointed to the Executive Committee of the National Committee for Traffic Safety. A meeting was held in Washington, D. C. on June 15.

Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.—The Committee, which was established in 1911 at the suggestion of the American Medical Association, this year celebrated the 40th anniversary of its founding. Now composed of five representatives of each of the present organizations appointed by their respective governing bodies, its chief function is to consider principles and policies and to make recommendations on problems affecting the health of children and youth.

The annual meeting of the Committee was held at American Medical Association headquarters, March 12 to 14, 1951. Among problems considered were methods of keeping current the more than twenty publications which the Committee distributes, completion of a new brochure on the health aspects of physical education and initial action toward the development of a book on school health services. The latter project, approved by the governing boards of both associations, is to be a companion volume for the authoritative text "Health Education" first produced by the Committee in 1924 and revised several times since that date. Interim subcommittees to take appropriate action on this project and other problems were appointed to function between annual meetings of the group.

Publications of the Joint Committee, including the 1948 edition of Health Education, are available from either the American Medical Association or National Education Association.

The Committee recommends that: (1) Physicians, educators and public health personnel be urged to submit pertinent school health problems to the Committee for consideration and appropriate action; (2) Extensive use of the recommendations of the Committee be made as a means of guiding the development of school health programs along sound lines; (3) Every effort be made to stimulate wider distribution of the publications and statements of policy adopted by the Joint Committee, and (4) Education and medical groups be encouraged to establish cooperative relationships at state and local levels to provide for joint action in improving school health programs.

Cleveland Health Museum.—The Director of the Bureau was reelected to the National Advisory Council by the Board of Trustees of the Cleveland Health Museum at its May, 1951, meeting.

United States Government Agencies.—The Bureau continues to cooperate by correspondence, or otherwise, with numerous government agencies, to which materials or information have been furnished during the past year.

MISCELLANEOUS

A new committee on protection of research was appointed by the Board of Trustees to consist of the Secretary of the Council on Medical Education and Hospitals, the Director of the Bureau of Legal Medicine and Legislation, the Director of the Bureau of Investigation and the Director of the Bureau of Health Education. This committee is in addition to and does not replace the previous Committee for the Protection of Medical Research. With the advice of these two committees, the Bureau revised the rules governing care and use of animals in scientific research laboratories. A supply of the revised rules is in stock and available for distribution on application to the Bureau of Health Education.

Report of the Bureau of Investigation

During the year ended Aug. 31, 1951, the Bureau of Investigation has made particular effort to cooperate in the public relations field by bringing its message on the evils of nostrums and quackery direct to the consumers in the form of lectures and public exhibitions.

The Director has appeared before Kiwanis and Lions clubs, church groups, parent-teacher associations, trade groups, women's clubs, chambers of commerce and a county medical society, presenting an illustrated lecture on Mechanical Quack-

ery. New kodachrome® slides have been prepared and new gadgets have been added to the collection, which are demonstrated. There have been 45 such presentations, for the most part in and near Chicago. These have been particularly well received. Each talk has been prefaced by a thumbnail description of the organization and the functions of the American Medical Association as they apply to the physician and the lay person. A paper on current campaigns against medical quackery was read before the Federation of State Medical Boards in February. The Director also appeared on television and radio on quackery subjects early this year.

In cooperation with the Bureau of Exhibits, a newly designed exhibit of fake medical devices was shown to large audiences at the Missouri and Indiana state fairs. These showings were under the auspices of the state medical society, and excellent cooperation from the state secretaries made the exhibits particularly effective. The older exhibit was shown at French Lick, Ind., at the meeting of the Indiana State Medical Association in September, 1950.

During the year the facilities of the Bureau have been used by popular magazine writers seeking data on particular cures or products claiming to have therapeutic worth in the proprietary field.

Four reports were published in THE JOURNAL under the auspices of the Bureau this year. These reports have been less frequent than in years past, but the subjects have been reported primarily on the basis of interest shown by way of inquiries on the subject. It is planned, however, to have more frequent Bureau reports on items of current interest in THE JOURNAL and *Today's Health* in the future.

The Bureau has continued its regular function of answering inquiries on the subjects on which it maintains files of information. More than 3,600 letters were sent out, giving such information on approximately 4,300 subjects. Physicians constituted the largest single number of inquirers, and inquiries from sufferers or their families or friends were the next largest category. Other groups included government agencies, newspapers and magazines, Better Business Bureaus, students and teachers.

The greatest number of subject inquiries was on the cancer quacks. These men appear to be doing a land office business. Several new treatments for cancer have made their appearance, and some of the older ones are more active than ever before. None of these, however, has any proved scientific merit. Second in volume of inquiry have been the vitamins, which currently are being promoted heavily as magic cure-alls in newspaper and other advertising. Rheumatism "cures" and reducing preparations follow in order of frequency.

During the year the Bureau has had considerable turnover in clerical assistants. As a result, the work of the Bureau has been hampered, but every effort is made to answer all inquiries promptly and to investigate any new "cures," treatments, and ideas when their existence is brought to light, usually by inquiry. This work appears to be effective from a public relations standpoint, and every effort is being made to maintain the position which the Bureau has had in the past.

Report of the Bureau of Exhibits

The activities of the Bureau of Exhibits include (1) the Scientific Exhibit at Annual and Clinical Sessions administered by the Committee on Scientific Exhibit of the Board of Trustees; (2) arrangement for Section meeting rooms at Annual and Clinical Sessions in cooperation with the Council on Scientific Assembly; (3) Association exhibits depicting the activities of the American Medical Association at medical meetings, fairs and expositions, in cooperation with the various Councils and Bureaus of the Association; (4) motion pictures, administered by the Committee on Medical Motion Pictures and (5) miscellaneous activities.

THE SCIENTIFIC EXHIBIT

CLINICAL SESSION—CLEVELAND

The Scientific Exhibit at the Cleveland Clinical Session was not large, consisting of 70 exhibits and demonstrations, but it elicited much favorable comment. Space was available to give each exhibit the necessary facilities, and wide aisles prevented overcrowding. Among the popular features were the manikin demonstrations on problems of delivery, the informal talks on diabetes, the fracture demonstrations and a group of exhibits on cancer.

Motion pictures were shown in a room adjacent to the exhibits, 14 carefully selected films being shown once each day. The entrance to the motion picture theater was next to that of the television theater, thus allowing physicians the opportunity of comparing the relative merits of these two forms of visual education.

Following the meeting, a questionnaire was prepared in cooperation with the Council on Scientific Assembly and sent to 500 physicians who had attended the Cleveland Session, the names being selected at random from the registration cards.

From 347 questionnaires returned, there were 347 replies concerning the Scientific Exhibit. Apparently every physician attending the Session visited that feature. The replies indicated that 5% did not attend any lecture, 10% did not see television and 22% did not see any motion pictures. The Scientific Exhibit was rated "excellent" or "good" by 92% of those who attended; on the same basis, physicians who attended other features rated "excellent" or "good" the general lectures and clinical presentations 90%, the motion picture program 88% and the television program 80%. Physicians appreciated the opportunity to discuss their problems with exhibitors and demonstrators.

THE SCIENTIFIC EXHIBIT

ANNUAL SESSION—ATLANTIC CITY

The Scientific Exhibit at the Atlantic City Session was one of the largest in the history of the Association and, in general quality of material and in teaching value, was one of the best. The location on the lower level of Convention Hall allowed for wider aisles, less crowding and a general atmosphere of serious study. In spite of certain disadvantages, the arrangements seemed to meet with general approval.

There were 436 signed applications for space, besides numerous inquiries which were discouraged because of no possibility of space being available. Two hundred and ninety-seven exhibits were shown in 306 booths.

There were several popular features. A group of exhibits on overweight, nutrition and health, together with a question and answer conference, was shown for the first time. Another new presentation was a group of exhibits on noise in industry. The fracture exhibit, the fresh pathology exhibit and the diabetes conferences, all of which have been repeated many times, were as popular as ever.

The Section representatives to the Scientific Exhibit rendered a vast amount of assistance in the procurement and selection of outstanding exhibits. Each Section had a group of exhibits pertaining to its specialty, but the endeavor was to make the exhibits of interest to the physician in general practice rather than the specialist.

Motion pictures were shown as part of the Scientific Exhibit program in two large rooms on the main floor of Convention Hall, adjacent to the Technical Exposition. Thirty-eight films were presented once each day during the week, with the authors of 11 films being present to discuss them. The films were selected with the cooperation of the Committee on Medical Motion Pictures from more than 100 applications, and all of the films were previewed by competent authorities. The attendance was excellent, several hundred persons often being present to see the most popular films.

The Committee on Awards, consisting of Drs. O. P. J. Falk, St. Louis, Chairman; Keith S. Grimson, Durham, N. C.; Paul H. Holinger, Chicago; Leonard A. Scheele, Washington, D. C.; and W. Walter Wasson, Denver, awarded seven medals—three gold, two silver, and two bronze. In addition, a certificate of merit was awarded to the best exhibit in each Section, together with one or more honorable mentions.

Numerous recommendations were made by visiting physicians for some method to preserve the vast amount of scientific information collected in the Scientific Exhibit. The Committee on Scientific Exhibit has these recommendations under consideration.

ASSOCIATION EXHIBITS

The Bureau of Exhibits has endeavored "to promote the science and art of medicine and the betterment of public health" by exhibits showing the activities of the various Councils and

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Bureaus of the American Medical Association on subjects in which those departments are interested. The list of exhibits available for loan purposes includes 49 subjects. During the year, several new exhibits were built, while others were refurbished and brought up to date. Several exhibits were discontinued and others will soon be worn out and must be replaced. Association exhibits have been scheduled for the year at 75 meetings and other gatherings. During the first six months of 1951, they were shown for a period of 708 days in 28 states and Alaska. The Bureau continues to advise and assist state medical associations in the preparation of their own exhibits when requested.

Medical Exhibits.—Medical exhibits have been scheduled for 30 meetings of medical societies or other scientific organizations. In each instance a qualified demonstrator accompanies the exhibit, usually a member of the Council or Bureau whose work is being shown.

In cooperation with the Secretary's Office, the Council on Medical Service, Council on Medical Education and Hospitals, Department of Public Relations and other departments of the Association, the Bureau of Exhibits has developed an extensive exhibit entitled "You and Your A. M. A." The exhibit was created especially for showing at state medical society meetings to acquaint members with the services available from the American Medical Association, its functions and health education and public relations activities. The exhibit is staffed by representatives from the central office who are thoroughly familiar with the American Medical Association. The exhibit forms a part of an integrated program to bring the American Medical Association to its individual members.

Health Exhibits.—Health exhibits at fairs and expositions continue to be popular. State and county medical societies, or organizations which are approved by such medical societies, borrow the exhibits and demonstrate them. Only rarely does a representative from the headquarters staff accompany an exhibit, the chief exception being the exhibit on mechanical quackery.

During the year, health exhibits were scheduled for 45 fairs and expositions with audiences running into the hundreds of thousands. The serious search for health information by visitors at fairs and expositions, and the appreciation expressed by such visitors, attests to the value of this method of health education. The opportunity of reaching large numbers of persons who are in a receptive mood is most valuable.

County and state medical societies approaching their fiftieth, seventy-fifth and centennial anniversaries seek the counsel of the Bureau in the presentation of Halls of Health, Health Centennials and similar public demonstrations. The Bureau is happy to be of assistance to the societies since such an event offers an excellent opportunity for the profession to discharge its avowed objective to promote "the betterment of public health" and to avail itself of the opportunity to execute an excellent public relations program.

Health Museums.—The Association has on semi-permanent loan several health exhibits to health museums in Chicago, Cleveland, Washington, D. C., and Dallas, Texas, in addition to the health exhibits listed above. The outstanding health museum in the United States is the Museum of Science and Industry in Chicago. That Museum has devoted several thousands of square feet of floor space to health exhibits which are on display seven days a week throughout the entire year. The attendance of school groups, tourists and other visitors from the United States increases the total attendance each year to nearly two million. The health exhibits are supervised by a medical committee of which Dr. A. C. Ivy is chairman, and the Director of the Bureau of Exhibits serves as executive director.

Health museums in other cities are under consideration and every assistance within the resources of this Bureau will be given to them.

COMMITTEE ON MEDICAL MOTION PICTURES

The many and varied services offered by the Committee on Medical Motion Pictures have been enlarged and expanded and an assistant and an additional typist were added to the staff.

Film Library.—Eight new films were added to the motion picture film library, the revised catalog now listing a total of 62 subjects. Copies of the new catalog were sent to the secretary of each county and state medical society and woman's auxiliary and to the dean of each medical school. Fourteen hundred forty-eight film shipments were made to various medical groups.

Film Reviews.—One hundred eight motion picture reviews were released to the Editorial Department, 98 of which have been published in THE JOURNAL. This represents a 27% increase in number of reviews published in 1950. A supplement to the second revised edition of the Booklet of Reviews was prepared, including all reviews published in THE JOURNAL during 1950. Complimentary copies were sent to the secretary of each state medical society and to the dean of each medical school and were also made available to county medical societies.

Film Source File.—The source file of medical motion pictures now contains information on over 2,500 films. This continues to be the basic source of information from which the committee is able to provide answers to the many hundreds of inquiries received each year from individual physicians, medical societies, medical schools and other scientific groups. During the past year, it was completely revised and expanded and a new section added, listing the addresses of all state health departments which maintain film libraries.

The mimeographed lists of films on special subjects total over 100 in number. These lists are constantly being revised and kept up to date. Film catalogs from all state health departments are on file and are used to direct requests for specific health films to local sources.

Special Projects.—Preliminary investigations on the effectiveness of motion pictures in medical education will be conducted through an appropriation of $2500.00 from the Board of Trustees. A research subcommittee of educators, audiovisual specialists and educational psychologists will be appointed in order to establish basic criteria under which controlled research studies might later be conducted in medical schools.

A cooperative program for cataloging films has been agreed on by the Committee on Medical Motion Pictures of the American Medical Association, the motion picture committee of the American College of Surgeons, and the Medical Film Institute of the Association of American Medical Colleges.

The secretary of the committee visited Mexico City in February at the request of the American Embassy in Mexico. The purpose was to explain to the medical profession of Mexico City, the motion picture program of the American Medical Association, to discuss the use of motion pictures in medical teaching and to explore the possibilities of making medical films more readily available to the medical profession in Mexico.

The Committee has prepared a list of fifty American made motion pictures at the request of the British Medical Association, which would be of special interest to the general practitioner of Great Britain. The British Medical Association is considering the possibility of including these films in their motion picture library.

Surveys.—During the past year, the Committee has conducted several important surveys, the purpose being to promote the effective use of motion pictures, to determine the extent and use of films within the various branches of medicine and to discover some of the problems which retard the expanded use of this medium.

1. A preliminary survey of health films cleared for use on television was made in response to requests from groups such as state and county medical societies. The results indicated that there was a need for a more detailed and expanded list of such films. A second survey of 81 sponsors and producers was carried out, and a list of 179 films was prepared with instructions for ordering the films. Copies were sent to the secretary of each state medical society and woman's auxiliary, to the program director of each television station and to more than 400 other persons who requested the list. Realizing that the value of the list would be enhanced if each available film were screened and critically evaluated, the Committee, in cooperation with the Bureau of Health Education, has begun a systematic evaluation program.

2. A questionnaire to determine which pharmaceutical houses sponsor films, how they distribute them and their attitude and policy relative to distribution to foreign countries was sent to 170 pharmaceutical companies. The replies contained much

practical information relative to films previously unknown as well as specific information which will prove to be valuable source material for the Committee as it is increasingly consulted by sponsors and producers on problems of production and distribution.

3. A series of questions relative to the use of motion pictures in medical schools was included in the recent survey conducted jointly by the American Medical Association and the Association of Medical Colleges. The Committee on Medical Motion Pictures received permission to extract this information from the completed questionnaires submitted by 41 medical schools. In general, the results indicated that there is no longer a lack of projection equipment or personnel to operate the equipment. Further, it appears that the main problem encountered centers about a lack of good films, especially in certain subject areas, and to a lesser extent the lack of interest in this medium by certain of the faculty members. The results quite definitely point toward a need for better planning of production in the medical motion picture field.

Other Projects.—The motion picture entitled "They Also Serve," prepared by the American Medical Association in 1949, was shown on a CBS television program under the sponsorship of the Civil Defense Administration. A copy of this picture has been purchased by the Administration for regular showings at the Civil Defense Staff College in Washington, D. C.

MISCELLANEOUS ACTIVITIES

Members of the staff have given unstinted service on numerous matters connected with visual education, both in graduate medical instruction and in health education. They have had numerous conferences with representatives of medical societies in the United States and in foreign countries. They have lectured, prepared material for publication, served on committees and reviewed books for THE JOURNAL and *Today's Health*. They have cooperated with the other Councils and Bureaus of the Association, integrating activities so that the American Medical Association is a complete unit.

The sixth edition of the Primer on Fractures was published during the year.

Report of the Bureau on Medical Economic Research

The demand for publications of the Bureau of Medical Economic Research was not as great during the 12 months ending Sept. 30, 1951, as it had been during the preceding 12 months, but the number of items published was greater. During the past 12 months Bulletins 79 to 86 and miscellaneous items M-38 to M-53 were published.

During the year now ending, 187,000 copies of Bureau bulletins and 186,000 copies of miscellaneous items were sent out to medical societies, physicians, schools, various organizations and individuals. The total, 373,000, compares with the total of 479,000 reported for the year ending Sept. 30, 1950. This decrease apparently reflects the decline in public interest in controversial aspects of medical economics.

SUMMARY OF PUBLICATIONS

Since the primary function of the Bureau is research, a brief summary of the publications will describe most of the work of the Bureau during the past year. A one sentence summary of each publication, by number, follows: (79) Continuing the downward trend, in 1949, for the first time, a large nation, the United States of America, lowered its maternal mortality rate to slightly below the apparently irreducible minimum of one death per 1,000 live births; (80) this new bulletin on medical service areas gives the population, square miles and primary centers of each area and includes a medical service area map of the United States; (80A) this supplement to Bulletin 80 lists the towns by medical service area numbers in those counties which are divided into two or more medical service areas; (81) supply of physicians' services—increased output of physicians through better roads, transportation and communication, technological progress, medical auxiliary personnel, decline in house calls and cooperation between physicians; proved medical progress in such fields as maternal mortality, infant mortality and life expectancy; and the lack of undue rises in physicians incomes indicate there is no nationwide doctor shortage; (82) seven representatives of different types of blood banks in widely scattered cities related their experiences in the establishment and operation of their banks as guides to community leaders who are trying to choose the type of blood bank best suited to their communities; (83) this second survey of blood banks presents revised national estimates of blood used by hospitals, in direct transfusion, blood obtained for storage, and normal and emergency bleeding capacity, along with a directory of hospital blood banks, non-hospital blood banks, and Red Cross Regional blood centers; (84) 30,000 replies in the survey of the 1949 incomes of physicians, undertaken jointly by the Bureau and the U. S. Department of Commerce, indicate that physician incomes have increased about as rapidly as the average income of the American people during inflation, with the increase resulting from better collections, greater "output per physician" through use of technical help and a moderate rise in fee schedules; (85) this annotated bibliography of articles and books on group practice, 1927-1950, is a revision of Bulletin 63; (86) since the price of medical care had risen by 1950 only 48% above the 1935-1939 level while the cost of living rose 72%, medical care in terms of the purchasing power of the dollar was 14% cheaper in 1950 than in 1935-1939.

The short items, usually multigraphed or multilithed, are termed miscellaneous (M); some of them are reprints of newspaper items about Bureau publications. (M-38) includes blood bank developments from July 1 to October 1, 1950, the text of the "Boston Agreement"—an agreement covering interrelations in time of peace and of national emergency between the American National Red Cross, the American Medical Association, the American Association of Blood Banks and the American Hospital Association—and the texts of the official assignments given the Red Cross by the Department of Defense and the National Security Resources Board, together with the acceptances by the American National Red Cross; (M-39) a reprint of the *Chicago Daily News* article quoting the American Medical Association view that mass blood typing is inadvisable; (M-40) a letter from Dr. Andrew C. Ivy, concerning mass blood typing and an answer by Dr. Leonard W. Larson, Chairman of the Committee on Blood Banks; (M-41) reproduces the article from the *Bay City Times* (Michigan) stating that Surgeon General Leonard A. Scheele believes mass blood typing would be a waste of time; (M-42) a reprint of a *Champaign-Urbana Courier* account of a local address by Senator Paul H. Douglas during the local campaign attacking the AMA lobby; (M-43) the evolution and growth of voluntary health insurance plans, their advantages over compulsory plans and former postpayment methods, and their present limitations are given; (M-44) the Report of the Committee on Blood Banks and the Report of the Reference Committee on Emergency Medical Service approving the committee's findings and recommendations; (M-45) a letter from Dr. George F. Lull to *Collier's*, supported by a chart, refutes the claim of the *Collier* article that there is an alarming doctor shortage; (M-48) letter to the editor commenting on the inadvisability of mass blood typing, reprinted from *American Journal of Public Health;* (M-49) a long letter by Dr. Paul I. Hoxworth, President of the American Association of Blood Banks, showing the difficulties encountered in carrying out the terms of the "Boston Agreement" and suggesting ways by which blood banks may solve their local problems; (M-50) a paper read by the Director at the March 1951 meeting of the Fraternal Actuarial Association—since 1900, the population of the United States has doubled through medical progress and other improvements but in the same period the number of persons 65 years of age and over quadrupled, bringing three main social changes; (M-51) a reprint of an editorial on the survey of physicians' incomes from *The Sunday Bulletin* (Philadelphia); (M-52) is a reprint of an editorial, "Keeping the Family Together" in THE JOURNAL Sept. 8, 1951.

OTHER ACTIVITIES

The Director made 19 addresses to a variety of organizations and has supplied speech material to several physicians. Speeches were delivered before meetings of the Woman's Auxiliary of the State Medical Society of Wisconsin, seventieth annual meeting of the South Dakota State Medical Association, Alabama Academy of General Practice and the seventy-third annual session of the Montana Medical Association, and to classes at Amherst College and Yale University. An address given before the Thirty-Second Annual Clinical Session of the American Col-

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lege of Physicians was scheduled to be published in the October 1951 issue of the *Annals of Internal Medicine*. A paper given before the Southern Conference on Gerontology at the University of Florida was published by the University and reprinted as M-53 by the Bureau. The Director also addressed the 1950 annual meeting of the American Medical Writers' Association; this address was published in the *Mississippi Valley Medical Journal*, January, 1951. The paper given before the 1949 American Public Health Association Annual Meeting was published by the *American Journal of Public Health*, May, 1951, and also as M-43 by the Bureau. The Director assisted in arranging and participated in two sessions on medical economics at the December 1950 meeting of the American Economic Association.

Cooperative activities with other headquarters' departments continue to expand. During the year 27 items were published in THE JOURNAL; these included book reviews, current comments, editorials and articles. Four editorials were published in *Today's Health*. A considerable number of manuscripts involving statistical procedures were submitted to the Bureau by the Editor of THE JOURNAL. Statistical aid was given to staff members of several bureaus and councils. The Director continued to cooperate with the Director of the Bureau of Legal Medicine and Legislation in efforts to provide tax relief for self-employed physicians in making provision for their pensions.

The I. B. M. machines and personnel were used in the preparation of some of the longer tables in the Bureau's publications, particularly in the survey of blood banks. The random selection of the 125,000 physicians contacted in the survey of physicians' incomes and the addressing of envelopes was an I. B. M. operation. The tables in the Hospital and the Internship and Residency numbers of THE JOURNAL and many tables for the Committee on Research for its cancer study were prepared by the I. B. M. section. At the present writing it appears that before December 1, 1951, the huge I. B. M. file on physicians, which is coextensive with the Directory Department file and the Directory Supplements, will be current; thereafter the continuing task will be to keep the file current. A duplicate set of punch cards on all physicians in the United States, Canada and United States possessions, coinciding with the 1950 American Medical Directory has been sent for safe storage to a fire proof warehouse about 30 miles from American Medical Association Headquarters.

Report of the Assistant to the General Manager Department of Public Relations

A special committee consisting of Drs. Gunnar Gundersen, Chairman, Edwin S. Hamilton and B. R. Kirklin was appointed by the Board of Trustees in December 1950 to study the public relations facilities and program of the Association. As a result of the committee's study Mr. Leo E. Brown was placed in charge of the Department of Public Relations, as Director, on March 1, 1951, and Mr. Lawrence Rember, former Director, was named as head of Field Service for the Department.

PUBLIC RELATIONS COMMITTEE

Shortly after the special committee had made its report, the Board of Trustees established a permanent Public Relations Committee, to be composed of three members from the Board of Trustees and two from the House of Delegates. The present members are Drs. Gunnar Gundersen, Chairman, Edwin S. Hamilton, Walter B. Martin, B. R. Kirklin and Truman C. Terrell.

ADVISORY COMMITTEE OF STATE MEDICAL ASSOCIATION EXECUTIVES

An Advisory Committee to the Director of the Department of Public Relations, composed of executive secretaries or public relations directors of constituent state medical associations, was appointed in April 1951 to advise the Director on the public relations needs of the constituent associations and on the over-all public relations program of the American Medical Association. The members of this Advisory Committee are:

Mr. Harvey T. Sethman, Chairman, Executive Secretary, Colorado State Medical Society.

Mr. Charles S. Nelson, Executive Secretary, Ohio State Medical Association.

Mr. Hugh W. Brenneman, Public Relations Counsel, Michigan State Medical Society.

Mr. John Hunton, Executive Secretary, California Medical Association.

Mr. Richard H. Graham, Executive Secretary, Oklahoma State Medical Association.

Mr. Frederick W. Miebach, Director, Public Relations Bureau, Medical Society of the State of New York.

Mr. Charles H. Crownhart, Secretary, State Medical Society of Wisconsin.

Mr. Ray E. Smith, Executive Secretary, Indiana State Medical Association, who died reently, was also a member of the Advisory Committee.

The committee held three meetings during the year. Its sound advice and counsel were of inestimable value in the implementation of the 1951 public relations program and in outlining the program for the coming year.

PUBLIC RELATIONS OBJECTIVES

The objectives of the American Medical Association public relations program during 1951 were threefold: (1) To serve and to inform adequately the members of the American Medical Association of the true ideals of the Association and the value of membership therein, thus soliciting their active support of its policies and program; (2) to convince the public that the medical profession is not only sincerely and actively concerned in seeing that high quality medical care is available to each community but also sincerely and actively concerned in seeing that such care is available when and where needed at a cost in keeping with each individual's economic status or without cost in unusual and extenuating circumstances, and (3) to encourage and assist state and county medical societies to continue and expand their public relations activities thereby cementing physician-patient and community relationships at the grass roots.

PRESS RELATIONS

The Press Relations Department in the last year functioned on a broader scale than ever before. Demands of newspapers and radio stations for constructive medical news continued to increase, with the result that the department's weekly news releases found wider public outlet the nation over. The News Release now is sent to 1,350 newspapers, magazines, wire services and science writers across the country. More newspapers assigned full-time men to medical reporting, and these looked to the American Medical Association for authoritative information. This was especially apparent at the annual meeting in Atlantic City which was attended by 79 writers representing 59 publications.

This wide dissemination of scientific advances in medicine played an important role in the fight against socialization. It gave editors constructive material which demonstrated to the public that the health of the people is being protected by the medical profession under an American system of enterprise.

Scientific articles in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, *Today's Health*, and the various specialty journals were given wide publicity. The activities of the Association were reported. Meetings of councils, committees and bureaus were publicized nationally.

What the medical profession is doing to increase the supply of doctors, to expand medical education, to eliminate grievances and to provide emergency services was well played up in newspapers and magazines and on radio all over the country. The information was supplied largely by the Department of Public Relations.

MAGAZINE RELATIONS

In 1951 national magazines devoted more and more space to articles on medicine and health. To keep pace with this trend, the Public Relations Department placed new emphasis on service to magazine editors and writers. In the first nine months of the year 58 editors and free lance authors received special assistance with writing projects. Articles written by these authors appeared in 35 mass circulation magazines with almost every top-ranking national publication represented. A manuscript review service inaugurated during the year offers a pre-publication check of magazine articles by American Medical Association staff physicians. Twelve medical articles were submitted for this check on accuracy, and the majority of the suggestions offered were adopted.

SESSION DAILY BULLETIN

In June 1951 the Public Relations Department assumed responsibility for the Daily Bulletin published during annual and clinical sessions of the American Medical Association. To make it a more effective public relations tool, the Daily Bulletin was issued in the form of a tabloid newspaper with special attention given to topography, layout and news coverage. Spot news photographs of Session events and personalities appeared in each issue.

FIELD SERVICE

The addition of a full-time Director of Field Service made it possible for the Department of Public Relations to serve more adequately the constituent state medical societies. During 1950 members of the Public Relations staff visited 31 state medical societies and numerous county societies, assisting in the planning and implementation of their public relations programs and discussing the goals, services and accomplishments of the American Medical Association.

A demonstration public opinion survey was conducted in Decatur and Macon County, Ill. The survey included personal interviews with 125 community leaders and 175 households. Questioned on the medical care received, its cost and quality, attitudes about doctors, the medical society and the health institutions delivering medical care, Macon County residents revealed the most common medical public relations problems. The results provided the American Medical Association with a test check against its own evaluation of public thinking. The survey report was made available to county medical societies for comparison, evaluation and guidance in conducting similar studies.

The Field Service program has received the commendation and appreciation of constituent associations served. Greater demands are being made for this service, and every effort is being exerted to comply.

LITERATURE

This year the Department of Public Relations has gone into the production and mass distribution of literature for the first time. The department produced two pamphlets. One, "A Doctor for You," designed for the general public, tells the story of the profession's efforts to graduate more and better physicians. Over one-half million copies have been distributed to people in all parts of the country.

The second pamphlet, "It's Your A. M. A.," was designed for physicians, and conducts the reader on an imaginary tour of Association headquarters, acquainting him with the many services the American Medical Association renders to its members. This pamphlet was mailed to all physicians in the United States. It will also be sent to all new members on receipt of their dues.

In addition to these two pamphlets, the department published a comprehensive "Guide to Services of the American Medical Association." This revision of the American Medical Association Handbook, containing many new features, will be brought up to date annually. It is intended primarily for officials of state and county medical societies and other organizations which have frequent contact with the Association.

The Department of Public Relations also made good use of an excellent crop of popular magazine articles, reprinting and distributing them widely. These were "Your Doctor for a Friend" and "What About This 'Doctor Shortage,'" both by Paul de Kruif and both reprinted from *Reader's Digest;* "The Doctors Clean House," by Alice Lake, reprinted from the August *American Magazine;* "How to Get a Doctor," by John E. Eichenlaub, M.D., reprinted from the April *Farm Journal;* "I'm a Doctor and I'm Human," by Robert K. Webster, M.D., as told to Greer Williams, reprinted from a fall 1951 issue of the *Saturday Evening Post,* and "A Doctor as Near as Your Telephone," by William F. McDermott, reprinted from the November, 1951, *Reader's Digest.* Approximately 3,000,000 pieces of literature were distributed to the profession and general public during the past year, including more than 1,000,000 copies of "What About This 'Doctor Shortage.'"

PR DOCTOR

PR Doctor, the bimonthly medical public relations news letter published by the department, has continued to promote public relations programs on the state and county levels during 1951. The medical man's own public relations piece, *PR Doctor* outlines medical public relations goals, transmits public relations ideas of other medical societies in case history form and offers guidance on public relations methods and materials. More than 1,400 state and county medical society executive secretaries, state public relations chairmen, state presidents, medical public relations personnel, American Medical Association officers and trustees, members of the House of Delegates, state medical journal editors and allied groups receive the news letter. The exchange packet, which carries samples of materials described in the news letter, is distributed to a limited mailing list of state and county medical society executive secretaries. As the result of many requests, the news letter mailing will be stepped up to between 2,500 and 3,000 in 1952 to cover every state and county medical society in the nation.

SERVICE TO COUNCILS, COMMITTEES AND BUREAUS

Throughout the year the department is called on to publicize activities of American Medical Association departments, councils, committees and bureaus and to counsel them on the public relations aspects of their programs.

The following conferences were publicized via newspapers, magazines, house organs, radio and television: Rural Health Conference; Industrial Health Conference; Congress on Medical Education and Licensure; National Conference on Medical Civil Defense; National Conference on Physicians and Schools, and annual meeting of the Student American Medical Association.

PUBLIC RELATIONS CONFERENCE

The fourth annual Medical Public Relations Conference will be held prior to the Clinical Session in Los Angeles. This year's conference will highlight medicine's major public relations problems as revealed by a letter query of state medical associations. Answers almost unanimously listed the cost of medical care and physician patient relationships as the chief public relations headaches. Results of three public opinion surveys will be presented to inform the conference on what the general public thinks of the medical profession and the medical services they receive. Work sessions on prepayment and postpayment of medical bills, catastrophic sickness insurance coverage, fees, itemized bills and waiting room problems are on the schedule. A transcript of the conference proceedings will be made available to county and state public relations committees and other interested individuals.

OFFICE PLAQUE

Realizing that many of medicine's public relations problems are the result of misunderstanding, the department made available to all physicians an office plaque which invites the patient to discuss services and fees frankly. The plaque reads:

> To All My Patients
> I invite you to discuss frankly
> with me any questions regarding
> my services or my fees.
> The best medical service is based
> on a friendly, mutual under-
> standing between doctor and patient.

Physicians were encouraged to purchase this plaque at one dollar and display it prominently in their waiting rooms.

INTRA- AND INTER-ASSOCIATION ACTIVITIES

During the year many special services have been rendered to individual members and state and county medical societies. The department has worked very closely with the Secretary and General Manager's office in determining the public relations policy of the Association. It continues to assist the Secretary and General Manager in preparing the Secretary's Letter, one of his important channels of communication to more than 3,200 national, state and county medical leaders. The department has performed many special services and provided assistance and suggestions in the preparation of speeches and articles for the officers and trustees.

Contacts with other key national organizations, associations and institutions were cultivated during 1951. A concerted effort has been made to acquaint other national organizations with the objectives, program and accomplishments of the American Medical Association.

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Dates of Future Sessions

The places at which annual sessions of the Association are to be held is decided by the House of Delegates and the places for the clinical sessions by the Board of Trustees. The dates for both sessions are determined by the Board. Following are the places and dates of annual and clinical sessions from 1952 through 1954:

Annual Session, 1952, Chicago, June 9-13.
Clinical Session, 1952, Denver, Colo., Dec. 2-5.
Annual Session, 1953, New York, June 1-5.
Clinical Session, 1953, St. Louis, Dec. 1-4.
Annual Session, 1954, San Francisco, June 21-25.
Clinical Session, 1954, Miami, Fla., Nov. 30-Dec. 3.

Conclusion

A supplementary report will be submitted to the House of Delegates which will contain information that will not be available until just prior to the opening meeting of the House.

Respectfully submitted,

DWIGHT H. MURRAY, Chairman.
GUNNAR GUNDERSEN, Vice Chairman.
EDWIN S. HAMILTON, Secretary.
EDWARD J. MCCORMICK.
DAVID B. ALLMAN.
F. J. L. BLASINGAME.
LEONARD W. LARSON.
THOMAS P. MURDOCK.
WALTER B. MARTIN.
JOHN W. CLINE.
LOUIS H. BAUER.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

The major concerns of the Council on Medical Education and Hospitals during the past year have been with matters referred to it by the House of Delegates, the securing of additional financial support for medical schools through the establishment of the American Medical Education Foundation and the National Fund for Medical Education, the negotiations to develop a joint program with other organizations for the accreditation and standardization of hospitals, problems arising from the Korean conflict and the resulting mobilization, the Survey of Medical Education, problems relating to the internship, including the disparity between the number of internships and the number of interns, the matching plan for the appointment of interns and the broad problem of the status of the internship in modern medical education, and a revision of the Council's "Essentials of An Acceptable Medical School."

At the annual session in Atlantic City in June, 1951, the Council submitted to the House of Delegates a special report on the policy of the American Medical Association regarding the production of physicians.

MATTERS REFERRED TO THE COUNCIL BY THE HOUSE OF DELEGATES

In June, 1951, the House of Delegates recommended that the Council continue its study of preceptorships. It can be reported that an increasing number of schools are conducting experiments with various types of preceptorships. Earlier this year the Council secured detailed information from the nineteen schools that offer preceptorships and published a summary of this information in the 1951 Educational Number of THE JOURNAL. The Survey of Medical Education is also investigating preceptorships and will present its findings in its final report. It is also planned to devote an important part of the program of the 1952 Congress on Medical Education and Licensure to a discussion of preceptorships.

The Council was also requested to study the problem of the multiplicity of medical meetings with particular reference to the requirement of attendance at hospital staff meetings. The Council is of the opinion that this problem is one which can be explored most effectively at the time the newly established Joint Commission on Hospital Accreditation formulates its standards for hospitals seeking its recognition. At the time this report was prepared, the formation of the Joint Commission had just been authorized by the four cooperating organizations and there had been no opportunity to hold a meeting of the Commission. At the proper time in the work of the Commission, the Council will take up this problem and report further to the House of Delegates.

The resolution recommending that general practice residencies provide that at least eight of the 24 months be devoted to surgery and that four of these months should embrace operating room experience, which was referred to the Council for further study, is being considered in conjunction with a possible revision of the Council's essentials of residencies in general practice.

The resolution recommending that the Council distribute standards of qualifications for physicians permitted to apply radium in hospitals will be acted on by the Council at its meeting in December, 1951, at the time of the Clinical Session.

FINANCIAL SUPPORT OF MEDICAL SCHOOLS

Two important new developments have occurred in the past year which promise to contribute significantly to the solution of the acute financial problems that have beset the medical schools since the end of World War II. In December, 1950, the Board of Trustees appropriated a half-million dollars as a nucleus of a fund to be raised by the medical profession during 1951 for the unrestricted use of the medical schools. Shortly thereafter the Association formed the American Medical Education Foundation as a separate corporation to serve as the instrument for raising such a fund annually. The Council wishes to take this opportunity, however, to state its conviction that the establishment of the Foundation represents a notable move which offers promise of becoming of great importance and significance. At the same time the Council urges strongly that all physicians demonstrate their interest in and concern for the maintenance of high standards of medical education by contributing generously and regularly to the Foundation.

The other new development was the public announcement of the establishment of the National Fund for Medical Education. In its last three reports the Council has referred to its joint efforts with the Association of American Medical Colleges to enlist the support of leading citizens for the establishment of a national organization to secure voluntary funds for the support of medical education. After more than two years of preliminary planning and organization, this effort achieved its first goal on May 16, 1951, with the announcement of the establishment of the National Fund for Medical Education. This important new organization is sponsored by outstanding leaders from the fields of public affairs, business, industry, agriculture, labor, higher education and the medical profession. Its affairs are directed by a board of 66 distinguished trustees from all parts of the nation. It has as honorary chairman, former President Herbert Hoover and as president, Mr. S. Sloan Colt, the president of Bankers Trust Company, New York. The trustees are aided by an advisory council composed of leading university presidents, members of the Council on Medical Education and Hospitals and members of the Executive Council of the Association of American Medical Colleges. Mr. Chase Mellen Jr. is executive director of the Fund which has its offices at 475 Fifth Ave., New York.

The objective of the Fund is to raise annually from voluntary sources substantial sums for the support of the nation's medical schools. Emphasis will be placed on securing contributions from corporations and organized groups which it is recognized have to a large extent replaced individuals as the great potential sources of philanthropy in this country. The Fund hopes eventually to raise between five and ten million dollars a year for distribution to all approved medical schools for their unrestricted use.

The closest possible cooperation exists between the National Fund and the American Medical Education Foundation. The activities of these two organizations do not in any way duplicate each other but are intended to and, in fact do, complement each other in a logical fashion. The National Fund is conceived as an agency to raise funds on a wholesale basis from organized groups. The Foundation is designed to raise funds specifically from the medical profession. Indicative of the close relationship between these two groups is the fact that members of the Board of Directors of the Foundation serve on the advisory council of the Fund and that the Board of Directors of the Foundation

voted this year to merge the funds it collects with those of the National Fund for distribution by the National Fund to the medical schools. By their combined efforts both organizations hope to provide continued substantial assistance to the medical schools that will greatly reduce the financial problems that have threatened their stability.

While the Foundation and the National Fund in their short history have been able to render only the most modest help to the medical schools, the efforts of the individual schools themselves have had sufficient success to warrant optimism that substantial progress is being made in securing more adequate financial support for medical education. For the coming academic year the medical schools report that their budgets will total $74,350,000 and that they expect to receive an additional $35,250,000 from outside agencies in grants for research and special teaching activities. The schools thus will have a total of $109,600,000 available for education and research during the coming year.

Earlier this year the Committee on Medical School Grants and Finances appointed by the Surgeon General of the Public Health Service published a report of a study it had made of the expenditures and the needs of the medical schools during the academic year 1947-1948. The committee reported that in that year the medical schools spent a total of $70,551,000 for basic operations and for separately budgeted research. This figure did not include the expense of maintaining clinical facilities. Of the total of $109,600,000 available to the schools for the coming year, about $3,250,000 will be used to support clinical facilities. This amount must be subtracted from the total to provide a figure that can be compared with the total expenditure as computed by the committee. When this is done it is seen that the medical schools expect to have available in 1951-1952 approximately $36,000,000 more than they spent in 1947-1948.

The Surgeon General's Committee estimated that the medical schools' unmet needs as of 1947-1948 could be financed only by the expenditure of about $40,000,000 more annually than the schools were then spending for education and research. The figures for the coming academic year indicate that the schools within the short space of four years have secured additional funds almost to the full amount of their need as estimated by the Surgeon General's Committee. It must be pointed out, however, that not all the increase of $36,000,000 is clear gain and that not all schools have shared proportionately. Part of the increase has been offset by loss in the purchasing power of the dollar; some of it has been used to support new or expanded activities not provided for in the estimate of $40,000,000. Account must also be taken of the fact that almost 40% of the gain of $36,000,000 is in the form of funds specifically earmarked for research and therefore not available for the schools' unrestricted use.

The overall picture, however, is one which warrants optimism that progress is being made even if unmet needs and some uncertainty regarding the future remain. Perhaps one of the most important conclusions to be drawn from the foregoing analysis is that the gap between unmet needs and available funds has been narrowed to a point where if the National Fund for Medical Education and the American Medical Education Foundation can provide an annual fund of from five to ten million dollars, the gap that remains for many schools will be all but eliminated. This goal can be achieved only if the medical profession without delay takes appropriate action to insure the continuing success of the American Medical Education Foundation. If this is done the solution of one of the most serious problems that has been encountered in the whole health field in recent years will be at hand.

MEDICAL EDUCATION AND NATIONAL DEFENSE

The problem of adjusting the various programs of medical education to states of partial or complete mobilization continues to occupy the Joint Committee on Medical Education in Time of National Emergency. This committee was formed by the Council on Medical Education and Hospitals and the executive council of the Association of American Medical Colleges two days after the onset of the Korean conflict. Its members are: Drs. Stockton Kimball, Chairman; Joseph C. Hinsey; A. C. Bachmeyer; Dean F. Smiley; George Berry; Herman G. Weiskotten; Harvey B. Stone; Victor Johnson; Donald G. Anderson; Francis R. Manlove, and Mr. John Stalnaker. The liaison members are Drs. B. R. Kirklin; Harold Diehl; Ravid Ruhe and Mr. C. Joseph Stetler.

During the past year the committee has undertaken four actions of major importance. On Nov. 1, 1950, a statement was submitted to the National Security Resources Board outlining recommendations for maintaining a flow of well trained physicians adequate to meet the needs of both the armed forces and the civilian economy during partial or complete mobilization.

The Joint Committee in November, 1950, appointed a Subcommittee on Curriculum consisting of Drs. Stanley W. Olson, Chairman; Charles B. Puestow; John P. Marbarger; H. Worley Kendell; Franklin C. McLean; Roy R. Grinker; Roger A. Harvey; Andrew C. Ivy; Gaylord W. Anderson, and G. M. Dack.

On Feb. 10, 1951, the Subcommittee returned to the Joint Committee a report entitled "Suggestions for Supplementing the Medical Curriculum in Time of National Emergency." This report, which has been sent to all medical schools, outlines the subject matter the future physician needs for a sound foundation for military medicine and the medical aspects of civilian defense.

On Jan. 10, 1951, representatives of the Council and the Association of American Medical Colleges appeared before the subcommittee of the Senate Armed Services Committee to discuss medical education in relation to pending legislation for universal military training and service. On Aug. 17, 1951, the Joint Committee appeared before the National Security Training Commission to discuss these same problems.

In addition to its participation in the activities of the Joint Committee, representatives of the Council have served on the Healing Arts Advisory Committee to the National Selective Service System. The Council has also been active in collecting and disseminating information to individuals and institutions regarding the policies of the Selective Service System and the armed forces particularly as they affect students, interns, residents, and teachers in the medical schools.

HOSPITAL STANDARDIZATION

The Council has followed with great interest the negotiations carried on by the Board of Trustees with the American College of Surgeons, the American Hospital Association, and the American College of Physicians leading toward the establishment of a Joint Commission on Hospital Accreditation to administer the program of hospital standardization which the American College of Surgeons has conducted for more than 30 years. The Council believes that the arrangement agreed to by all four organizations is a sound one and one that holds great promise for further improving the quality of hospital care. The Council is looking forward to doing its part to make the new program a successful one.

SURVEY OF MEDICAL EDUCATION

The survey of medical education which is being conducted by the Committee for the Survey of Medical Education under the sponsorship of the Council and the Association of American Medical Colleges ended its second year of field work in the spring of 1951. During the two-year period, 41 schools were visited.

At the completion of this phase of the study the Committee, after carefully weighing all aspects of the problem decided that it would not be feasible to visit all medical schools as had been planned when the survey was initiated. This decision was based on the recognition that the partial mobilization necessitated by the Korean conflict had resulted in increasing demands on the medical schools from other sources and on the recognition that the schools individually and collectively are faced with urgent decisions on a number of fundamental, long term educational polices. It was the opinion of the committee that it could render more service to the medical schools and the public by preparing an early report of its findings to date than by continuing its field work for another one or two years. The Committee, therefore, decided to discontinue visits to the medical schools after June 1, 1951, and to address its full energy to the preparation of a report by the earliest possible date. It is now hoped that the report will be published and ready for distribution by the spring of 1952.

Early in 1951 the Committee recognized the possibility that it might not be feasible to visit all medical schools. The schedule of schools selected for study was, therefore, adjusted to give an

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adequate cross section of the medical schools of the United States. Since the purpose of the survey was to study problems that are basic to all medical schools rather than the peculiar problems of individual schools and since a representative cross section of schools has been studied, it is the committee's belief that the value of its report will not be materially affected by the lack of opportunity to visit all schools.

The Subcommittee on Preprofessional Education, under the chairmanship of Dr. Aura E. Severinghaus of Columbia University, continues to work in coordination with the program of the Survey Committee. During the past year the subcommittee made an intensive study of preprofessional education which included visits to approximately 100 colleges and universities which offer preprofessional training. In November, 1950, this committee sponsored a three day conference at which a group of leaders from the liberal arts colleges met with the Subcommittee on Preprofessional Education and the Survey Committee for the purpose of discussing the principles and problems of preprofessional education. The points of view and opinions expressed in this conference were summarized and utilized by the subcommittee in orienting its study of preprofessional education in the liberal arts colleges.

A larger conference is being planned for the spring of 1952, to which representatives of the liberal arts colleges and medical schools will be invited for the purpose of discussing the final report of the subcommittee.

REVISION OF ESSENTIALS OF AN ACCEPTABLE MEDICAL SCHOOL

Periodically the Council reviews and revises its standards for the various types of educational programs for which it grants approval. During the past year the Council has been engaged in preparing an extensive revision of its "Essentials of an Acceptable Medical School." The last previous revision was made in 1945. At the time this report was prepared some work still remained to be done on the revision. The Council plans, however, to present the revised "Essentials" to the House of Delegates as a supplementary report at either the 1951 Clinical Session or the 1952 Annual Session.

FOREIGN MEDICAL SCHOOLS

Since February, 1950, the Council, in collaboration with the Association of American Medical Colleges, has published a list of foreign medical schools whose graduates it recommends be given consideration on the same basis as graduates of approved medical schools in the United States. The original list of 38 schools has been expanded to 49. The five Swiss schools and the American University of Beirut were added to the list in June, 1950, the University of São Paulo, Brazil, and the four schools in Belgium in February, 1951, bringing the total to 49. It is expected that other schools will be added as rapidly as information accumulates which justifies their inclusion. Since the Council must depend for information largely on reports furnished by qualified American medical educators who have occasion to visit foreign schools under consideration, development of the list must proceed slowly.

This list has now been adopted as a guide by the licensing boards of 23 states and by the National Board of Medical Examiners. Copies of the list are frequently requested by state and federal governmental agencies, universities, other organizations and individuals. The timeliness of the list and the need for it are emphasized by the fact that since Feb. 7, 1950, the Council has received a total of 1,660 requests for information about foreign medical schools.

SECTION ON GRADUATE TRAINING

The Graduate Training Section has been responsible during the past three years for the administration of the Council's internship and residency approval program. Its activities include correspondence with hospitals conducting or planning to conduct intern or resident training, evaluation of new applications for approval of internship and residency programs, the inspection and reinspection of hospitals, correspondence and personal liaison with the specialty boards and medical departments of the federal services and preparation of the lists of approved services for publication in the Internship and Residency Number of THE JOURNAL. During the past year this section has cooperated with the National Interassociation Committee on Internships, on which the Council is officially represented, in implementing a new plan for the appointment of interns. This plan is essentially a method by which the student's hospital preference and the hospital's rating of the student are matched through a central office. It has been adopted as the official procedure for making internship appointments for the year 1952-1953.

A detailed statistical report of inspections made by the field staff for the period from Oct. 1, 1950 to Sept. 30, 1951, is presented later in this report. During the past year one member of the Council's staff has devoted his efforts entirely to visiting federal hospitals. This arrangement was considered necessary because of the expansion of the training programs of the federal services and because of the necessity of expediting consideration of applications in Army and Navy hospitals developing new and revised training programs as a result of the present expansion of the military establishment. For the reporting period, the Council's representatives visited 574 hospitals, reviewing and evaluating 238 internship programs and 1,437 residency programs. The Council's long range program of hospital inspections contemplates visiting every hospital approved for internship or residency training at least once every two years. It is anticipated that this program will now be correlated with hospital surveys to be made in connection with the newly established Joint Commission on the Accreditation of hospitals.

For the past several years, the Council has given serious consideration to the problems relating to the supply and distribution of interns. A number of special committees of the House of Delegates have reported their findings after studying the matter and have urged that an attempt be made to correct the abuses resulting from the constantly increasing disparity between the number of internships offered and the number of available interns. Recognizing the seriousness of the present situation, the Council at its June meeting revised its previous policy of approving a hospital for intern training which left the number of internships to be offered entirely to the discretion of the hospital. Following this action, all hospitals approved for intern training were advised that hereafter, approval would be extended annually to include the specific number and type of internships for which the hospital would be approved. This same principle has been in effect for some time in certain specialties for which approval has been granted with a limitation on the number of residents to be appointed. In order to establish a basis for this year, the Council announced a Quota Basis for the Appointment of Interns. Following the announcement, all hospitals approved by the Council were advised of the number of internships for which the hospital would be approved under this program. The large majority of hospitals accepted the necessity of this policy. A number, representing about 15% of those approved, requested increases because of expanded bed capacity or added activities. A few hospitals, as was anticipated, protested the establishment of any sort of quota basis. At the time, lists of approved internships were being prepared for publication in the Internship and Residency Number and in a directory to be used by the National Interassociation Committee on Internships. It became evident that time did not permit a careful consideration of the requests for an increased number of internships from those hospitals which had applied nor to afford an equal opportunity for a review of the status of all other hospitals which might also wish to apply for an increase. In view of these considerations, the Council has presently deferred the quota plan although strongly urging all hospitals to cooperate voluntarily in appointing interns for next year in accordance with this program.

The problems which have resulted from the increasing imbalance between the number of internships being offered in approved hospitals and the number of potential applicants have pointed up the need for a reevaluation of the internship and a reclarification of its present role in the training of a physician. To study these problems and to consider the internship in its broadest aspects, the Council received authorization from the Board of Trustees to appoint an Advisory Committee on Internships. This committee was established in July, 1951, and is composed of leaders from the profession, the major specialty fields, medical education and hospital administration. Its members include: Drs. S. Howard Armstrong, Chicago; Granville Bennett, Chicago; Ulrich Bryner, Salt Lake City; John Leonard, Hartford, Conn.; John McK. Mitchell, Philadelphia; John Paine, Buffalo; John Romano, Rochester, N. Y.; Anthony J. J. Rourke, San Francisco; Robert Wilson, Philadelphia; John Youmans, Nashville, Tenn.; and Victor Johnson, Chairman, Rochester, Minn.

The committee held its first meeting in September, at which time general objectives were reviewed and plans made for the future development of the study. The House of Delegates will be kept informed of the findings and recommendations of the committee.

The Council wishes to point out that a situation comparable to that regarding the supply and distribution of interns is developing in residency training. Hospitals approved by the Council reported last year that 25% of their residency positions were not filled. This is due in part to the fact that many residents have been called to duty with the Armed Forces. It indicates also that applicants for residency positions are now largely limited to physicians completing their internships as contrasted to the postwar period when many medical officers on leaving the service sought residency appointments.

The number of applications for approval of new residency programs received last year numbered 283. While a year ago there were 529 applications on file in the Graduate Training Section on which action was still pending, as of September 30 these had been reduced to 338; of this number the majority have been reviewed by the Council's field representatives and are under consideration by the Council and the specialty boards concerned. The number of hospitals approved for residency training increased from 1,071 in 1950 to 1,120 this year. There has been a definite leveling off, however, in the number of new programs being established, as compared to the period 1946-1950 which saw a two-fold expansion in the number of residencies offered.

Residency programs in general practice increased from 32 in 1950 to 66 this year. A high proportion of these were reported vacant last year, however, which may be accounted for in part by the fact that the programs are newly established. The relation of the general practice residency to intern training in preparing the graduate for a career in family practice is one of the problems which will have the attention of the Advisory Committee on Internships in making its study.

During the past year the Council reviewed all residency programs in orthopedic surgery in collaboration with the American Board of Orthopedic Surgery. On the basis of this survey, hospitals approved for training in this specialty were classified in three groups; those offering full training in orthopedic surgery, including children's orthopedics, adult orthopedics, fractures and the basic sciences as applied to the specialty; those offering all these divisions with the exception of children's orthopedic surgery, and a third group which included hospitals which offer training in one or two divisions but do not provide full training qualifying the resident for examination by the Board. Hospitals in this latter category have been encouraged to develop a comprehensive training program either independently or in collaboration with other approved institutions in order to assure the resident of progressively graded, integrated training. The Council in the last revision of its Essentials stressed the desirability of the development of training programs of this type and is collaborating with specialty Boards in other fields to this end.

Since the Council's last report to the House, a survey of state departments of health has been completed by the American Public Health Association. Based on the findings of this survey, the Council, in collaboration with the American Board of Preventive Medicine and Public Health, has approved 12 residency programs in this field. The training is carried out under the supervision of the state health department. In most programs, however, the majority of the residents' time is spent in the local health units. The addition of preventive medicine and public health brings to 28 the number of specialties and subspecialties for which the Council grants approval. In 19 of these, specialty boards have been established. Eighteen boards now collaborate with the Council in the approval of residency programs. The other, the American Board of Ophthalmology, has advised the Council that it does not wish to participate in a residency approval program but that it will accept training in a hospital approved by the Council, in qualifying for its examinations.

Last December, representatives of the American Board of Obstetrics and Gynecology met with the Council to discuss the lack of uniformity in the requirements of the two groups for residency training in this specialty. Following this meeting the Council was advised that the Board had taken action on the points which were discussed with the result that the standards for approval of training programs in obstetrics and gynecology are now essentially the same for both organizations. The wholehearted cooperation of this Board, as well as that received from the other specialty groups, has been most encouraging to the Council.

The Council has worked in close collaboration during the past year with the American Board of Internal Medicine and the American College of Physicians in the evaluation and approval of residency programs in internal medicine. This work is carried on by the Conference Committee on Graduate Training in Medicine, composed of representatives from each of the participating organizations. The Committee is engaged in a pilot study of residency programs in this specialty to lay plans for an overall review of all approved services in internal medicine. To assist in the work of the committee, the Council received last year a contribution of $1,500 from the American College of Physicians and one of $1,000 from the American Board of Internal Medicine. The Council has expressed its sincere appreciation to these two organizations for this direct support and interest in elevating standards of training in this specialty. The Council further has had the assistance of the Subspecialty Boards of the American Board of Internal Medicine in evaluating and approving residency programs in allergy, cardiovascular diseases, gastroenterology, and pulmonary diseases.

In general surgery, residencies are approved by the Council, the American Board of Surgery and the American College of Surgeons through the Conference Committee on Graduate Training in Surgery. This committee has been responsible during the past year for the development of a uniform set of standards for residencies in general surgery and of a list of hospitals offering training in the specialty approved by all three organizations and for the establishment of a single hospital inspection procedure. Members of the Council's field staff now make the basic inspection of hospitals applying for approval in surgery. Three other specialty boards have expressed their interest in the development of a similar arrangement in their particular fields. Preliminary discussions to this end have been initiated with the American College of Surgeons and the following specialty Boards: American Board of Obstetrics and Gynecology, American Board of Otolaryngology, and the American Board of Proctology.

ACTIVITIES OF THE SECTION ON HOSPITAL SERVICE AND TECHNICAL SCHOOLS

The Section on Hospital Service and Technical Schools deals primarily with the registration of hospitals and the approval of schools for medical technologists, x-ray technicians, physical therapists, occupational therapists and medical record librarians. These activities, carried out in accordance with standards adopted by the House of Delegates, involve not only the evaluation of individual applications but also the maintenance of acceptable lists of hospitals and technical schools as published annually in THE JOURNAL. The latest issue of the Hospital Number, May 12, 1951, contained the names of 6,430 hospitals registered by the American Medical Association. These institutions reported in 1950 a total of 1,456,912 beds, 89,200 bassinets, 17,023,513 admissions, 2,815,806 births, and an average daily census of 1,242,777. The general hospitals, with 15,830,170 admissions, offered the greatest volume of service, yet the psychiatric institutions alone maintained an average daily census of 687,567 which is greater than the combined patient load in all other registered hospitals. This annual survey revealed also that while the government hospitals, as a group, have 71% of the total beds, they receive only 25% of all hospital admissions.

From Oct. 1, 1950, to Sept. 30, 1951, the number of registered hospitals was reduced from 6,662 to 6,549. In this period 422 hospitals were closed or failed to supply the information necessary for continued registration, whereas 309 were added to the list. Locally the respective county medical societies have participated actively in the evaluation of individual applications and full cooperation has also been received from district councilors and other representatives of state medical associations.

In the technical fields the Council on Medical Education and Hospitals has worked closely with the Council on Physical Medicine and Rehabilitation and the national organizations representing the various fields. Here the major problems concern chiefly the growing shortage of technical personnel, the importance of providing additional training facilities and the need for further evaluation and inspection of existing schools. Continuing efforts are being made to increase educational opportunities and impressive gains have already been made, particularly

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in the x-ray and laboratory fields. In the last year the Council has communicated with all medical schools calling attention to the need for further facilities for the training of physical therapists and occupational therapists. The response has been encouraging as 17 medical schools, aside from the 18 already engaged in physical therapy training, have expressed their interest in the development of suitable programs. In occupational therapy, where 11 medical schools are already participating in technical training, there is indication that 13 additional medical colleges may wish to organize similar courses. In the field of medical record library science, where the shortage of trained personnel is equally acute, suggestions have been made that courses be established for high school graduates who have not fulfilled the college requirements specified in the present standards. This method may be important, also, in relation to other fields for if an adequate supply of technical personnel cannot be produced under present educational methods, it may become necessary to modify the existing pattern or depend in increasing degree on the development of subsidiary groups of junior technicians.

Assistance offered by the American College of Radiology has resulted in a comprehensive survey of the approved x-ray schools in which the inspection of individual training programs is being carried out by regional councilors of the College. This study is progressing rapidly and to date 246 schools have been visited out of a total of 292. In the laboratory field, the Board of Schools of Medical Technology, working in cooperation with the Council, has recently completed a questionnaire survey of the approved schools, now totaling 475. It is anticipated that this study may later develop into a regular inspection program for the evaluation or reappraisal of individual schools.

The Council is continuing its interest in the promotion and development of general practice sections in hospitals. It has collected information for publication in the Hospital Number of THE JOURNAL showing the facilities and privileges available to qualified general practitioners. This material, which has also been forwarded to the American Academy of General Practice, will be supplemented by further studies in the next Annual Census of Hospitals in the United States.

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APPROVED EXAMINING BOARDS IN THE MEDICAL SPECIALTIES

No new Boards have been approved during the past year. There are now nineteen Boards established including eleven in surgery and the surgical specialties, six in medicine and the medical specialties and the two clinical-laboratory specialties, pathology and radiology.

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE

The forty-seventh annual Congress on Medical Education and Licensure, sponsored by the Council on Medical Education and Hospitals and the Federation of State Licensing Boards was held in Chicago on Feb. 12 and 13, 1951. Among the subjects discussed were the supply of physicians and the medical curriculum in relation to mobilization, the policies of the Selective Service System with respect to medical personnel, the evolution of the medical curriculum, supply of physicians for rural areas, premedical education and the financing of medical education. The 48th annual congress will be held in Chicago on Feb. 11 and 12, 1952.

COLLABORATION WITH OTHER AGENCIES

The fact that numerous organizations and agencies today have an active interest in one or more phases of medical education requires that there be close cooperation among these various groups if sound national efforts are to be made for the advancement of medical education. From its very beginning the Council has recognized the importance of collaborating with other organizations and has sought to work closely with every major group that has displayed a real interest in medical education. As a result, close collaboration with other agencies has become one of the most significant parts of the Council's program in terms of time, energy, and importance.

Particularly beneficial have been the close relations that the Council enjoys through regularly constituted liaison committees with the Association of American Medical Colleges and the Advisory Board for Medical Specialties, and through the more recently established conference committees on graduate training with the American College of Surgeons and the American College of Physicians. Of great importance also have been the many cooperative undertakings with the individual American boards in the specialties and with the medical departments of the Army, Navy, Air Force, Public Health Service, and Veterans Administration on matters pertaining to programs for graduate training.

Conjoint activities with these and other organizations have been varied in nature and have involved members of the Council, the Secretary and members of the staff. These cooperative enterprises have included consultations, participation in conferences, meetings, the work of advisory committees and joint sessions and studies. A partial list contains the names of 65 agencies and organizations with which the Council has collaborated during the year.

MEDICAL SCHOOLS VISITED

During the year Oct. 1, 1950, to Sept. 1, 1951, the following medical schools were visited for consultations, inspection or in connection with the Survey of Medical Education: Creighton University, Howard University, State University of Iowa, University of Louisville, University of Minnesota, University of North Carolina, University of Puerto Rico, University of Rochester, and University of Ottawa.

Representatives of the Council also participated in studies and consultations relative to establishing a state medical college in New Jersey, the development of medical departments of the University of Miami and Yeshiva University and the expansion of the West Virginia University School of Medicine to a four-year school.

INSPECTION OF HOSPITALS AND TECHNICAL SCHOOLS

Inspections of hospitals and technical schools made by the Council during the year Oct. 1, 1950, to Sept. 30, 1951, are summarized as follows:

Intern training	92
Residencies and Fellowships	336
Intern training and residencies	146
Registration	19
Technical schools	5
Total	598
Individual residencies and fellowship programs investigated	1,437

SUMMARY OF HOSPITALS AND TECHNICAL SCHOOLS

Figures for approved hospitals and technical schools with changes occurring during the year Oct. 1, 1950, to Sept. 30, 1951 are as follows:

Registration of Hospitals	
Hospitals registered, Oct. 1, 1950	6,662
New institutions registered to Sept. 30, 1951	309
Closed or transferred to unclassified files	422
Hospitals registered Sept. 30, 1951	6,549
Internship Approval	
Hospitals approved for intern training, Oct. 1, 1950	792
Approved to Sept. 30, 1951	73
Removed from approved list	21
Hospitals approved for intern training, Sept. 30, 1951	844
Residency Approval	
Hospitals approved for residency training, Oct. 1, 1950	1,071
Approved to Sept. 30, 1951	66
Removed from approved list	17
Hospitals approved for residency training, Sept. 30, 1951	1,120
Medical Technology Schools	
Approved schools, Oct. 1, 1950	488
Approved during year	37
Removed from approved list	10
Approved schools, Sept. 30, 1951	475
Medical Record Librarian Schools	
Approved schools, Oct. 1, 1950	18
Approved during year	2
Removed from approved list	1
Approved schools, Sept. 30, 1951	19
Occupational Therapy Schools	
Approved schools, Oct. 1, 1950	24
Approved during year	0
Removed from approved list	0
Approved schools, Sept. 30, 1951	24
Physical Therapy Schools	
Approved schools, Oct. 1, 1950	31
Approved during year	1
Removed from approved list	1
Approved schools, Sept. 30, 1951	31
X-Ray Schools	
Approved schools, Oct. 1, 1950	278
Approved during year	18
Removed from approved list	4
Approved schools, Sept. 30, 1951	292

COUNCIL PUBLICATIONS

During the period Oct. 1, 1950, to Sept. 30, 1951, the Council was responsible for preparing material for six numbers of THE JOURNAL:

Postgraduate and Continuation Courses for Physicians	Dec. 9
Hospital Service in the United States	May 12
Medical Licensure Statistics	May 26
Postgraduate and Continuation Courses for Physicians	June 9
Medical Education in the United States	Sept. 8
Internship and Residency Number	Sept. 29

Other regular publications of the Council included: Proceedings of the 1951 Annual Congress on Medical Education and Licensure; Approved Examining Boards in Medical Specialties; Choice of a Medical School; Approved Colleges of Arts and Sciences; Foreign Medical Schools; Reciprocity and Endorsement Policies in Medical Licensure; Requirements of Candidates for Medical Licensure on the Basis of Credentials Obtained in Countries Other than the United States and Canada; Federation Bulletin (for the Federation of State Medical Boards of the United States); Quarterly Report of Residency Information Service; and lists of sundry technical schools.

The Council also has reprinted for distribution a number of articles dealing with questions relating to the Council's work and responsibilities and, in addition, has published numerous statements in THE JOURNAL from time to time concerning current problems.

ELECTION OF DR. FRANKLIN MURPHY TO THE COUNCIL

Dr. Franklin D. Murphy, Dean of the University of Kansas School of Medicine, was elected to membership on the Council by the House of Delegates at the annual session in June, 1951. He succeeds Dr. William S. Middleton, who, because of the pressure of other heavy responsibilities, requested that he not be considered a candidate to succeed himself. Since his election to the Council, Dr. Murphy has been appointed Chancellor of the University of Kansas.

APPRECIATION

It is once again a pleasure for the Council to express its gratitude to the numerous organizations, institutions, and individuals who by their generous assistance have contributed so much to its program this year. Particularly, thanks are due the officers, trustees, and members of the House of Delegates of the American Medical Association who have provided material aid, suggestions, and encouragement which have been a large factor in the success of the Council's efforts.

Respectfully submitted,

H. G. WEISKOTTEN, Chairman.
VICTOR JOHNSON.
W. L. PRESSLY.
HARVEY B. STONE.
GUY A. CALDWELL.
RUSSELL L. HADEN.
FRANKLIN D. MURPHY.
DONALD G. ANDERSON, Secretary.

REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

To the Members of the House of Delegates of the American Medical Association:

Since the Clinical Session in Cleveland, Dec. 5-8, 1950, the Council on Scientific Assembly held meetings on March 13 in Houston, Texas; on June 10 in Atlantic City, N. J.; and on July 30 in Los Angeles. The Chairman of the Council also met informally in Houston on January 30 with Mr. Thomas R. Gardiner, Business Manager of the American Medical Association, and Dr. J. T. Billups, Chairman of the Local Committee on Arrangements for the Houston Clinical Session, in preparation for the regular meetng of the Council held in the same city on March 13. The actions taken at these meetings is summarized in this report. A supplemental report on business transacted at a conference with the Section Secretaries on October 16 in Chicago, and at a meeting of the Council on December 2 in Los Angeles will be presented to the House of Delegates at the Los Angeles Session.

1951 CLINICAL SESSION

Arrangements for the Houston Clinical Session were practically completed by the time the Council met in Houston on March 13. Dr. J. T. Billups, Chairman of the Local Committee on Arrangements, and an active group of Texas physicians including the deans of the medical schools of Southwestern University in Dallas, Baylor University in Houston and the University of Texas Medical Branch in Galveston, had outlined a program of distinction including color televison and a series of outstanding exhibits. Splendid teamwork was shown by Dr. Billups and his Houston committee, and their work in the opinion of the Council on Scientific Assembly was admirable. It was with great regret, therefore, that the Council found it necessary, on recommendation of the Local Committee on Arrangements and the Texas Medical Association, to transfer the meeting to another city. It is to be hoped that the work of Dr. Billups and his collcagues will serve as a model for a future meeting of the American Medical Association in the Southwest, where the Association has not met for 25 years.

As in 1950, when the Clinical Session was unexpectedly transferred in midsummer from Denver to Cleveland, a similar situation confronted the Council in 1951. Houston was abandoned and Los Angeles was quickly chosen as the convention city. Dr. Walter Scott of Hollywood was appointed Chairman of the Local Committee on Arrangements and he, working rapidly and efficiently, was able to outline his program at a meeting of the Council held in Atlantic City on June 10. Illness of the Chairman of the Council prevented him from attending, but the meeting was ably conducted by the Acting Chairman, Dr. Charles H. Phifer of Chicago. A second meeting of the Council was held in Los Angeles on July 30, again with Dr. Phifer as Acting Chairman. With the cooperation of representatives of the Los Angeles County Medical Association, Dr. J. Lafe Ludwig of Los Angeles was chosen as Co-Chairman to act with Dr. Scott, and the completed committee and program, including color television to be broadcast from the Los Angeles County Hospital, was approved by the Council.

The Council offers the Scientific Program for the Los Angeles Clinical Session as part of its report, with expectation that the meeting will exceed the standard set at previous sessions. Geared to the local facilities, as must be all programs of clinical sessions, speakers have been chosen from a wider area of the country than ever before at a midwinter meeting. The session will thus be more national in character than in the past, a trend that has the full approval of the Council. To arrange two programs for clinical sessions in one year has been no simple task but, thanks to loyal members of the American Medical Association in Texas and in California, this problem has been met to the satisfaction of the Council on Scientific Assembly and, it is hoped, to the members of the House of Delegates.

TELEVISION

The Council approved the application received from the Smith, Kline and French Laboratories for permission to televise at Atlantic City and at Los Angeles in 1951. Dr. Stanley P. Reimann, a member of the Council, continued to serve as official representative of the Council for the 1951 annual and clinical sessions. No other applications for television were received. The Council approved the program presented at Atlantic City under the direction of Dr. C. Alexander Hatfield, associate surgeon to the Pennsylvania Hospital. The program for the Los Angeles Clinical Session, arranged under the direction of Dr. R. Varian Sloan, Glendale, Calif., president of the Los Angeles County Chapter, California Academy of General Practice, was also approved.

SECTION ON MILITARY MEDICINE

The Council has appointed the following physicians as officers for the first meeting of the new Section on Military Medicine, to be held at the Chicago Annual Session in June, 1952:

Chairman, Dr. Melvin A. Casberg, St. Louis.
Vice Chairman, Dr. Richard A. Kern, Philadelphia.
Secretary, Dr. Sheldon S. Brownton, Washington, D. C.
Delegate, Dr. Russel V. Lee, Palo Alto, Calif.
Alternate Delegate, Dr. Wendell Scott, St. Louis.
Executive Committee, Dr. Melvin A. Casberg, St. Louis; Dr. Russel V. Lee, Palo Alto, Calif; Dr. C. C. Shaw, Washington, D. C.

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Representative to Scientific Exhibit, Dr. William S. Stone, Washington, D. C.

Respectfully submitted,

HENRY R. VIETS, Chairman
STANLEY P. REIMANN
ALPHONSE MCMAHON
CHARLES H. PHIFER
CARL A. LINCKE
MICHAEL E. DEBAKEY
SAMUEL P. NEWMAN
LOUIS H. BAUER, President-Elect
AUSTIN SMITH, Editor of THE JOURNAL
GEORGE F. LULL, Secretary.
} Ex officio

REPORT OF THE COUNCIL ON MEDICAL SERVICE

To the Members of the House of Delegates of the American Medical Association:

The Council on Medical Service has continued to collect data concerning medical service programs and to study these programs with a view to determining changes and trends. Much of this work was covered in the Council's progress report to the House of Delegates in June. Only recent developments will be presented here.

VOLUNTARY HEALTH INSURANCE

Continued growth in the number of persons protected by the various health insurance programs is encouraging. During 1950 the enrolment increase continued as evidenced by the September, 1951, revision of "A Survey of Accident and Health Coverage in the United States." Compiled by the Survey Committee of the Health Insurance Council, it includes enrolment figures of Medical Society plans, including Blue Shield, private insurance, Blue Cross plans and other voluntary agencies. Copies were sent last September to members of the House of Delegates, officers of the Association, officers of constituent associations, prepayment plans and others.

On Dec. 31, 1950, the number of persons protected by some form of hospitalization, surgical expense and medical care expense benefit insurance totalled 76,961,000, 54,477,000 and 21,589,000, respectively. The numerical growth for each class of coverage during 1950 was: hospitalization, 10,917,000; surgical expense, 13,334,000; and medical expense, 4,727,000. In other words, during 1950 hospitalization enrolment increased 17% and surgical expense benefit enrolment increased 32%, while the number carrying medical expense benefit insurance increased 28%.

Growth in number of persons insured has been accompanied by improvement in the scope of coverage. The improvements in coverage apply to both medical society plans and other programs. Several plans and companies previously writing only group coverage have entered the field of underwriting individual risks. Conversely, several plans and companies heretofore specializing in underwriting individual risks have expanded their activities to include group underwriting. The availability of voluntary health insurance programs is thus increased. A further improvement is the fact that more and more plans and companies are either raising or eliminating entirely the age limit restrictions that once were so common.

The Council's Committee on Prepayment Hospital and Medical Service is maintaining liaison with the Blue Shield Commission and other trade association groups toward the end that such growth may continue on a sound basis.

The attention of the House of Delegates is invited to the statement on voluntary health insurance adopted by the House of Delegates during the 1950 Clinical Session in Cleveland. The Council on Medical Service has approved an amendment to that statement, which starts on page 55 of the Proceedings of the Cleveland Session, and submits this amendment for your consideration. The amendment is the substitution of a new paragraph four (4) as set forth below with the present paragraphs four (4) and five (5) renumbered five (5) and six (6), respectively. The new suggested paragraph is as follows:

"The hospital supplying the above mentioned hospital services should present a separate bill for those services. The professional person supplying such above stated medical services should present a separate bill distinct from that of the hospital. Professional services are those in which an opinion, diagnosis, interpretation, or treatment is given by a person licensed to practice medicine and surgery."

The Council is encouraged by the sustained interest in the Seal of Acceptance. This is evidenced by the continuing applications on behalf of medical society plans.

In considering applications from prepayment plans for the right to use the Seal of Acceptance, the Council and its Committee on Prepayment Hospital and Medical Service have relied on the constituent associations and component societies. Care has been exercised in interpreting the adopted standards in the light of good public policy. Added safeguards have been approved by the Council. The Council submits to the House of Delegates the following suggestions concerning its issuance of the Seal of Acceptance to plans sponsored or approved by constituent associations and component societies:

1. Any plan which provides reduced benefits in the event a subscriber is treated by a non-participating physician shall not be considered as eligible to receive the Seal of Acceptance.

2. Any plan which requires in writing that its participating physicians shall not participate in any other program shall not be considered as eligible to receive the Seal of Acceptance.

3. The Seal of Acceptance shall not be available, nor continued, to any plan not providing statistical, financial and enrolment data when requested.

4. The Seal of Acceptance is extended to the plan as a mechanism rather than to the actual policies, certificates, fee schedules, claim forms, and so forth. In other words, the Seal if used, should appear on promotional material and not on the legal contracts issued by the approved agencies.

The Council is considering either undertaking or sponsoring studies for the purpose of analyzing the costs of medical care and the reasons for such costs. With the costs and reasons determined, such information would first be made known to the profession and the various agencies in the health insurance field. This would enable the agencies to offer benefits more consistent with the costs. The next step would be to inform the public through the Public Relations Department of the American Medical Association and other channels so the public, in turn, can be in a position to purchase benefits for the insurable costs of medical care in closer relationship to such costs.

FEDERAL MEDICAL SERVICES

The Committee on Federal Medical Services has sponsored conferences with the Department of Medicine and Surgery of the Veterans Administration. Primarily, these conferences were for the purpose of determining the official attitude of the Veterans Administration with regard to its medical care programs. The Home Town Medical Care program for veterans with service-connected illnesses is administered in three ways. Two of the administrative methods involve either contracts or agreements with constituent associations. These conferences have enabled the Committee and the Council to be of greater service to those constituent associations under agreement or contract. The Committee has participated in other conferences designed to improve the features of some of the Home Town Medical Care programs administered through intermediaries.

In addition to the liaison developed with governmental agencies, the Committee is attempting to develop better working relationships with nongovernmental groups and agencies in studying those fields of federal medical services not handled specifically by other committees.

HOSPITALS AND THE PRACTICE OF MEDICINE

The Report on Hospitals and the Practice of Medicine continues to be a topic of widespread discussion. Although the report is primarily a restatement of already established principles, it is looked on as something new and different by many persons in both the medical and hospital field. Members of the Committee on the Extension of Hospitals and Other Facilities have spoken on the general subject before various groups and have replied to numerous inquiries regarding the report.

Such activities as have taken place in an effort to conform to the principles reiterated in the report have been primarily local and, with few exceptions, are being settled locally. In some areas medical care plans are making efforts to include in their

contracts those medical services over which there has been controversy. In at least one area, however, one hospital plan has refused to relinquish these medical services despite the willingness of the medical plan to accept them.

Because of the wide divergence of opinion concerning the report and the various interpretations given to it, the Council has requested the Committee on Extension of Hospitals and Other Facilities to meet prior to the Clinical Session and review developments to date.

PHYSICIANS PLACEMENT SERVICE

Interest in improved physician distribution and renewed emphasis on general practice have focused attention on the activities of physician placement services. Virtually all of the state medical associations have some provision to assist physicians who are seeking a location and communities seeking a physician. However, less than one-half of the states have what could be called a formal program. The Council's Physicians Placement Service works closely with state associations, providing a sort of national clearing house for both physicians and communities.

In December, 1950, the Council reported on the situation in a pamphlet, "Physicians Placement Service." In June, 1951, at the request of the Board of Trustees, the Council submitted a report outlining suggestions for an expanded program in the placement field. The statement of the Board to the House of delegates, approved in June, 1951, in regard to this report reads in part as follows:

> "The Board of Trustees believes that there is a definite need for expanding the Association's activities in this field and in providing the leadership to develop further the physician placement services in the state medical societies, as follows: (1) the organization and implementation of an effective physician placement service in every state; (2) expansion of the present program of the American Medical Association's Physician Placement Service; (3) conducting a national conference on physician placement if found advisable, and (4) design plans for financial assistance to physicians in setting up a practice.
>
> "The Board will give support to this program by financing it to the degree demonstrated to be necessary."

As a follow-up to the foregoing recommendations a Conference on Physician Placement Service activities was held in Chicago in October. Attending the Conference were representatives of ten state medical associations, the Association of American Medical Colleges, the American Academy of General Practice and several Councils and Bureaus of the American Medical Association. Among the matters discussed were: What should be the relationship between the American Medical Association Physicians Placement Service and the state placement services? What should be done to improve placement service activities throughout the country to obtain a better distribution of physicians?; What can be done to get communities to provide inducements which will attract young physicians?, and Is a "revolving fund" from which young physicians may borrow either necessary or feasible?

One of the primary problems confronting physician placement services is the attitude of physicians towards practice in small communities. As the population of the United States has tended to concentrate in the urban areas, so, too, have physicians moved to the cities. Paralleling this movement has been the trend toward specialization. To reverse these trends requires the combined efforts of the medical societies, the medical schools and the people who live in small communities and rural areas.

Many types of experiments and programs are now in operation throughout the United States, and the Council on Medical Service is collecting and preparing data on the activities of medical societies, medical schools and communities directed to attracting young physicians to general practice and to practice in small communities. Among the activities to be studied and evaluated in the light of placement service objectives are medical scholarship and loan programs, general practice preceptorship programs, special courses for general practitioners, rotating internships and residencies in community hospitals, and inducements that can be provided by communities.

The conclusions of the Conference on Physician Placement Service activities and related problems will be considered by the Committee on Extension of Hospitals and Other Facilities in November.

MATERNAL AND CHILD CARE

As reported in June, activities in the field of maternal and child care have centered around the proposals to revive a program similar to the Emergency Maternity and Infant Care Program which operated during World War II. Conferences have been held with representatives of the American Academy of Pediatrics, American Legion, Association of State and Territorial Health Officers; American Committee on Maternal Welfare, Catholic Hospital Association, American Hospital Association; American Protestant Hospital Association, and American National Red Cross.

In the summer of 1951 the Department of Defense estimated the armed forces strength for 1952 at 3½ million men (although recent estimates put the number at four million) of which approximately one-third will be married. Military personnel and facilities are expected to care for about 70,000 of the 240,000 estimated births to wives of enlisted men. The remaining 170,000 must, then, be cared for in civilian hospitals and by civilian physicians. Statistically this presents no problem, but the fact that many wives follow their husbands to military camps creates a burden in these areas on both hospitals and physicians. Being "away from home" also depletes the finances of servicemen's wives, creating a further problem for local welfare agencies.

The question of the need for a special program, such as the World War II E. M. I. C., has occupied much of the time of these conferences. With but one exception the groups with which the Council has conferred have encountered no widespread need which would warrant the creation of a federal program and have agreed that with proper planning such maternity cases can be cared for locally. The only indication as to the existence of a widespread "need" comes from a survey made at the request of the Children's Bureau by the American National Red Cross for the month of March, 1951. Even this survey, we believe, is inconclusive and merely emphasizes the need for local and individual planning rather than a need for federal intervention.

Other equally important questions have also been considered during these conferences. How can such need as does exist, particularly in and around the large encampments, be best cared for? How can local and individual planning be best carried on? To what extent should plans be made in the event that a full-scale war is encountered? What part can voluntary health insurance play in any program that might be developed for the dependents of servicemen?

The answers to these and other questions are still not clear and will require the consideration and cooperation of all interested organizations. The Council believes that adequate liaison has been established with interested organizations and will continue to confer with them. For the present, however, the conclusions reported to the House of Delegates in June, 1951, remain unchanged.

INDIGENT CARE

The Council has made a good start on the complex problem of care of the indigent. During the summer a medical student with a background in public health administration was employed for a period of six weeks to assist in the actual field surveys of local indigent medical care programs. The study is concerned with two general groups of people: (1) those on general relief programs, including the indigent and medically indigent, and (2) those on Public Assistance Programs, including the old age pensioners, the dependent children, the blind, and the permanently and totally disabled. The importance of these groups in the field of medical service is apparent when one considers that during April, 1951, one person was receiving old age and disability benefits for every 11 employed persons, and one person was receiving public assistance benefits for every 13 persons. Accurate data as to the number on general relief are not available, but it is small compared to the ever-increasing numbers coming within the provisions of public assistance.

Preliminary field surveys have been completed in the following communities: New Haven, Conn.; Toledo, Ohio; Madison, Wis.; Buffalo, Erie County, N. Y.; Monmouth County, N. J.; Newark, N. J.; and Des Moines, Polk County, Iowa.

In addition, three states and five other local areas have been selected for field surveys this winter and spring. The schedule calls for completion of the work by April 1, 1952, so that a complete report on "Medical Care for the Indigent" may be made to the House of Delegates next June.

LIAISON WITH OTHER ORGANIZATIONS

Liaison with other national organizations either active in or interested in medical service programs is most important, and the Council has made every effort to see that such liaison is developed. In addition to the organizations mentioned elsewhere in this report, contact has been maintained during the year with representatives of the following groups:

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American Academy of General Practice
American Academy of Pediatrics
American Association of Medical Clinics
American College of Radiology
American Dental Association
American Legion
American Public Health Association
American Public Welfare Association
American Society of Anesthesiologists
Association of American Medical Colleges
Association of American Physicians and Surgeons
Blue Shield Commission
Brookings Institution
Chamber of Commerce of the United States
College of American Pathologists
Commission on Chronic Illness
Cooperative Health Federation of America
Federation of Employees' Benefit Associations, Inc.
Health Insurance Council
Insurance Economics Society of America
Medical Economics, Inc.
National Association of Clinic Managers
National Association of Medical Dental Bureaus, Inc.
National Health Council
Public Health Service
Research Council for Economic Security
United Mine Workers Welfare and Retirement Fund
Veterans Administration

LOAN KITS

During the year the loan kits on various aspects of medical service have been used extensively. Interest has been greatest in group practice, emergency medical call programs and community health councils, although many requests are received for loan material on temporary disability benefits legislation, indigent care, and grievance committees. All of the loan kits are kept up-to-date by adding new material as it becomes available.

DISTRIBUTION OF MATERIAL

With few exceptions the Council distributes material only on request. During 1951 requests continued to come from physicians, medical societies, students, schools and libraries. In addition, an increased number of requests have come from government agencies, labor groups, service clubs, and foreign countries.

In reply to these requests over 165,000 pamphlets and reprints were distributed during the year. The bulk of the items had to do with the general subject of health insurance, voluntary and compulsory. However, interest in information on such subjects as health councils, emergency call plans, grievance committees, and physicians placement services has shown considerable increase.

Special kits of material have been prepared for debate students and to meet the needs of students participating in essay contests sponsored by the woman's auxiliaries, the Association of American Physicians and Surgeons and others.

Respectfully submitted,

JAMES R. MCVAY, Chairman.
ELMER HESS, Vice-Chairman.
JESSE D. HAMER.
JOSEPH D. MCCARTHY.
THOMAS A. MCGOLDRICK.
H. B. MULHOLLAND.
JOHN W. CLINE.
E. L. HENDERSON.
DAVID B. ALLMAN.
MR. THOMAS A. HENDRICKS, Secretary.

REPORT OF THE AMERICAN MEDICAL EDUCATION FOUNDATION

To the Members of the House of Delegates of the American Medical Association:

The American Medical Association in December, 1950, with the authorization of the Board of Trustees, sponsored the establishment of the American Medical Education Foundation as an independent corporation to receive funds for the support of medical education.

The first meeting of the Board of Directors of the American Medical Education Foundation was held Feb. 14, 1951. A constitution and by-laws were adopted and the following Directors and officers were elected: Drs. Elmer L. Henderson, president; Harvey B. Stone, Vice President; Donald G. Anderson, Secretary-Treasurer; Louis H. Bauer; Gunnar Gundersen; Edwin S. Hamilton; Walter B. Martin; George F. Lull; J. J. Moore; H. G. Weiskotten; and Victor Johnson.

In July, 1951, Mr. Russell F. Staudacher was named to the position of Executive Secretary, and offices are maintained in the headquarters building of the American Medical Association in Chicago.

The Board of Directors held two additional meetings, on April 13 and June 12. At the April meeting the Directors voted to channel receipts of the American Medical Education Foundation through the National Fund for Medical Education headed by former President Herbert Hoover. Subsequently, the Foundation contributed $640,682.90, representing receipts of the Foundation to May 31, 1951. This amount provided more than 50% of the initial grants made by the National Fund to the 79 medical schools in July, 1951.

The officers of the Foundation took an active part in the public announcment meeting of the National Fund held May 16 in New York City. On several other occasions Foundation officers have met with National Fund executives for purposes of evaluating progress and correlating future plans.

The Directors also voted at the April meeting to allow contributors to the Foundation to earmark their donations for the benefit of any approved medical school the donor desired. This action proved a stimulus for added donations from the profession.

During the spring contributions to the Foundation were declared income tax exemptible for the year by the Commissioner of Internal Revenue. This ruling provides for 1952 and subsequent years until permanent exemption is granted.

At the June meeting plans were made for a sample direct mail appeal for funds with additional tests planned for October. As of Oct. 1, 1951 the total contributions to the Foundation were $689,244.90. The organized activities in several states indicate that the $1,000,000 goal for 1951 as set by the profession may be reached in the months immediately ahead.

During 1951 the Foundation used most of the mediums available for promoting and telling the story of the need for funds. Of especial help and great value were the contributions of time, space and counsel made by the Editor and staff of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. THE JOURNAL printed editorials and contributor listings and gave freely of space for institutional advertising. Additionally, all state and county medical society editors gave many editorial columns to promote the ideals of the Foundation. The plea for contributions was also made by use of an advertising message on the mailing machine which imprinted each piece of first class mail leaving the American Medical Association headquarters building. A clip sheet for use by editors, both lay and professional, was developed in order that all news and aims of the Foundation might be disseminated as widely as possible.

The Foundation exhibited at the American Medical Association session in June and plans to do so at the Clinical Session in December. A new exhibit was developed and first used at the annual meeting of the Medical Society of Virginia. The Foundation is prepared to exhibit at state medical society meetings when the opportunity is presented. Letters have been sent periodically to all state medical association presidents and secretaries informing them of the progress by their states in raising funds for the Foundation. Visits were made to several states for the purpose of assisting in the formation of programs tailored to meet specific needs. These visits served to stimulate many states into activation of programs designed to increase the flow of contributions from certain areas. Several informational pamphlets are being prepared for use in telling the purposes and needs of the Foundation.

Appreciation of the efforts of the Foundation was expressed by the members of the Association of American Medical Colleges meeting in annual session late in October, at which the following motion presented by Dr. George Pack Berry, chairman of the Committee on Financial Aid to Medical Education, was adopted:

"I move that the Deans of the Medical Schools, in assembly at French Lick for their Sixty-Second Annual meeting, unanimously express their sincere appreciation and their enthusiastic thanks to the Trustees and Officers of the American Medical Education Foundation of the American Medical Association for their substantial support of medical education and for helping to focus national attention on the serious financial predicament of the medical schools."

The Foundation Directors feel that with continued, increasing cooperation by everyone interested in maintaining medical education at the present high level, the present gap between funds

needed and funds available will be narrowed. It is on this promise of cooperation and activity that the Directors predicate their plans for the year ahead.

APPRECIATION

The Directors of the American Medical Education Foundation wish to thank all those individuals and organizations both lay and professional, who have had a part in writing the first year's history of one of organized medicine's most important projects. The progress made to date would have been impossible without this valued help. Of particular import and deserving of singular recognition is the American Medical Association, its House of Delegates, trustees and officers for their generosity in making available the half million dollars which became the cornerstone of this fledgling philanthropic organization.

Respectfully submitted,

ELMER L. HENDERSON, President.
HARVEY B. STONE, Vice President.
DONALD G. ANDERSON, Secretary-Treasurer.
LOUIS H. BAUER.
GUNNAR GUNDERSEN.
EDWIN S. HAMILTON.
WALTER B. MARTIN.
GEORGE F. LULL.
J. J. MOORE.
H. G. WEISKOTTEN.
VICTOR JOHNSON.
MR. RUSSELL F. STAUDACHER, Executive Secretary.

REPORT OF THE STUDENT AMERICAN MEDICAL ASSOCIATION

To the Members of the House of Delegates of the American Medical Association:

Dec. 27 and 28, 1951, are important dates for the medical profession, organized medicine, medical education and the medical student. At this time the House of Delegates of the Student American Medical Association will meet in its first annual session, the initial meeting in what promises to be a long series of yearly gatherings of medical students from all parts of the nation.

The Student American Medical Association, while only a year old, is the fruition of the dreams and hopes of many persons and groups for the past two decades and even longer. For years there have been efforts to organize medical students into a cohesive group, as the constitution of the new organization clearly states, "to advance the profession of medicine, to contribute to the welfare and education of medical students, to familiarize its members with the purposes and ideals of organized medicine and to prepare its members to meet the social, moral and ethical obligations of the profession of medicine."

The planning of isolated individuals and groups for years was culminated in tangible fashion on Dec. 29, 1950, when representatives of 42 medical schools attended the constitutional convention in Chicago. Many of the remaining 32 medical schools evinced an interest but had no representative student organization from which to select a delegate.

The following officers were elected to guide the organization:

President:
Warren Mullen, University of Michigan Medical School.

Vice President:
Harry Sandberg, University of Illinois College of Medicine.

Treasurer:
David Buchanan, University of South Dakota, School of Medical Sciences.

Executive Council:
William Davenport, University of Arkansas School of Medicine.
Herbert Sperling, Boston University School of Medicine.
John Looper, Medical College of Georgia.
Donald Brugger, Ohio State University School of Medicine.
James Henderson, University of Oregon Medical School.
Charles Wilson Jr., University of Texas School of Medicine.
Howard Christian, Tufts College Medical School.

Delegates to the American Medical Association House of Delegates:
Warren Mullen, University of Michigan Medical School.
Harry Sandberg, University of Illinois College of Medicine.

MEMBERSHIP DRIVE

The fact that the constitutional convention was held in the middle of the school year presented organizational handicaps. Despite this, 41 schools were organized and the chapters in those schools had ratified the constitution by the end of March, 1950. These charter members represent more than 14,000 students. The beginning of the 1951-52 school year presented the officers of the Student American Medical Association with a challenge to organize as many chapters as possible by the end of 1951. To this end a concentrated organizational membership drive was undertaken by the Council at its September meeting. Since the drive began, the qualifying steps which will allow them to membership as constituent chapters have been taken in 20 schools.

COOPERATION

Letters were written to every constituent state medical association outlining past progress of the Student American Medical Association and inviting the state groups to a role of active cooperation and participation with both the national organization and the local student academic societies. Typical of the response is the following:

"The Council of the California Medical Association is strongly behind the idea of supporting the ideals of the S. A. M. A. and has agreed to pay the expenses of one or two representatives of each chapter to the annual state meeting as well as to pay the expenses of one representative from each chapter to the annual meeting of the S. A. M. A."

This type of cooperation has been forthcoming from most of the state medical associations.

IMPORTANT EVENTS

Two important events served to distinguish the first 12 months of the Student American Medical Association. Both were of equal importance and will serve now and in future years to add strength and virility to this student organization.

JOURNAL

Deserving of immediate attention is the soon-to-be-published *Journal of the Student American Medical Association.* The first issue will appear during the last week of December, 1951, and will be mailed to more than 33,000 medical students and interns in the nation. Conception of the Journal came in July of 1951 after much survey, investigation and deliberation by the officers and persons in the publication field. Following a meeting of the Publications Committee, a decision was reached to begin publication January, 1952. A managing editor has been employed as the nucleus of the editorial staff for the new publication and the first issue is well on the way to becoming a reality.

BENEFITS AND OBJECTIVES

The second important event was the formulation of a set of benefits and objectives for the association. These statements of purpose outline for the members and those outside the organization the short and long-range objectives of the group. They have been widely circulated in order that the organization might prosper through a definite statement of objectives.

MISCELLANEOUS

Three issues of "News Vox," a four page newsletter of information and progress were distributed to more than 1,000 persons.

The Council of the Student American Medical Association held two meetings during the year.

Mr. Leo Brown, first executive secretary of the organization, was succeeded in July by Mr. Russell F. Staudacher.

APPRECIATION

The members of the Student American Medical Association are sincerely indebted to the medical profession for all the help and cooperation so freely given during this first year of organizational life. Thanks also are due to those lay persons whose kind acts and words helped the group over many initiatory rough spots. Special gratitude is due the American Medical Association for its generosity in providing personnel and suitable space for the administrative operations. THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and all of the state medical journals are also to be commended for active editorial support of the aims and ideals of this new organization.

The continued cooperation of all members of the medical profession coupled with earnest effort on the part of Student American Medical Association members will do much to insure a long and prosperous life for the organization.

Respectfully submitted,

WARREN MULLEN, President.
HARRY W. SANDBERG, Vice President.
DAVID BUCHANAN, Treasurer.
MR. RUSSELL F. STAUDACHER, Executive Secretary.

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PARENTERAL ALIMENTATION WITH INVERT SUGAR

Invert sugar was used parenterally in place of glucose during both the first and second world wars.[1] Since it was considered merely a substitute, however, its use was almost entirely abandoned when adequate supplies of glucose again became available.

Present day emphasis on the desirability of maintaining adequate caloric intake in patients unable to eat the requisite amounts, coupled with the limited rate at which glucose is utilized, led to the re-evaluation of invert sugar for use in parenteral alimentation. Weinstein [2] noted that invert sugar could be injected at a rate of 1.5 gm. per kilogram of body weight per hour, without producing diuresis and with the loss of only insigificant amounts of sugar in the urine. In contrast, equal quantities of glucose could be given no faster than 0.78 gm. per kilogram per hour and even at this rate (approximately one-half that at which the invert sugar was given) almost 10 times as much sugar was spilled in the urine. Gram for gram, the caloric values of the two sugars are the same, 10% solutions furnishing approximately 400 calories and 5% solutions 200 calories per liter. But, since the administration of 10% invert sugar solution requires no more time or fluid volume than does 5% glucose solution, patients can be given twice as many calories.

Since invert sugar is composed of equal parts of dextrose (D-glucose) and levulose (D-fructose), the fact that it is utilized twice as rapidly as glucose must be due to metabolic factors inherent in the sugars. Fructose is more readily phosphorylated and more rapidly utilized than is glucose [3] and is known to be a better glycogen former.[4] It has also been shown that, when fructose and glucose are given together, the amount of glucose disappearing from the circulation is greater than when glucose is given alone.[5] It would appear, therefore, that the rapidity with which invert sugar is utilized is probably due to (1) the more rapid utilization rate of the fructose portion; (2) the catalytic influence of the fructose on the glucose portion; or (3) a combination of the two. Further study will, no doubt, give more information on the physiologic basis for the marked difference in utilization rates of the two sugars. On the basis of the clinical and experimental work already done, however, it would appear that the advantages offered by the greater caloric value, without an increase in fluid volume, of invert sugar solutions should prove useful in patients requiring parenteral carbohydrate alimentation.

CIVIL DISASTERS AND CIVIL DEFENSE

For several years, the medical profession has taken an active part in spreading the message of civil defense within its own ranks and to the population generally. Although encouraging progress has been made, the real test of medical civil defense planning will involve a tedious and monotonous continuation of practice sessions and "dry runs."

A vivid setting for such testing has been furnished by a series of recent civil disasters, the most recent of which was the flood in eastern Kansas and western Missouri. The story of the flood was dramatized by thousands of individual tragedies; by homes swept away; by huge accumulations of debris; by stranded and killed livestock; and by inundated bridges and buildings.

The experience was terrifying and extremely costly; yet by comparison with sudden enemy attack it was a Sunday school picnic. What would our profession have done if, with much less warning, we had been confronted with an atomic attack with its hundreds of thousands of burn, blast, shock and radiation casualties, with its utility failures and its food, water and medical supply shortages? Would medical care systematically have been made available? Would our civil defense organization have swung into action in an efficient manner? Would you have known, as an individual, where to report and what your responsibility was? If all of these questions cannot be answered affirmatively, civil defense prepardedness is still a hazy mirage.

Fortunately, in the Kansas and Missouri flood the thousands of bodies swept away by water were those of livestock and not humans. There were no epidemics as a

1. Cousin, and Fagon: Invert Sugar Therapy, Bull. des Travaux de la Société de Pharmacie de Bordeaux **3**: 161, 1937; abstracted, J. Pharm. & Pharmacol. **139**: 214 (Aug. 21) 1937. Kerr, S. E., and Pauly, R. J.: Invert Sugar as Substitute for Glucose in Intravenous Therapy, Surg., Gynec. & Obst. **74**: 925 (May) 1942.

2. Weinstein, J. J.: Intravenous Infusions of "Invert Sugar": Preliminary Report, M. Ann. District of Columbia **19**: 179 (April) 1950; Parenteral Therapy with Invert Sugar, Ann. West. Med. & Surg. **4**: 373 (Aug.) 1950; Tolerance of Human Beings to Intravenous Infusions of 15% Invert Sugar, J. Lab. & Clin. Med. **38**: 70 (July) 1951; Comparative Utilization of Invert Sugar and Dextrose in Nondiabetic Human Beings, M. Ann. District of Columbia **20**: 355; 408 (July) 1951; Weinstein, J. J., and Lane, G. F.: Rapid Infusions of Invert Sugar, ibid. **20**: 186; 242 (April) 1951.

3. Vestling, C. S., and others: Rat Liver Fructokinase, J. Biol. Chem. **185**: 789 (Aug.) 1950; Weichselbaum, T. E., and others: Comparative Utilization of Fructose and Glucose Given Intravenously, Proc. Soc. Exper. Biol. & Med. **75**: 816 (Dec.) 1950.

4. Everett, M. R.: Medical Biochemistry, New York, Paul B. Hoeber, Inc., 1942, p. 291; Deuel, H. J., Jr.: The Intermediary Metabolism of Fructose and Galactose, Physiol. Rev. **16**: 173 (April) 1936; Cori, C. F.: The Rate of Glycogen Formation in the Liver During Absorption of Fructose and Galactose, Proc. Soc. Exper. Biol. & Med. **23**: 459 (March) 1926; Nutter, P. E., and Murlin, J. R.: Glycogen Formation in Liver and Muscle from Glucose and Fructose after Extreme Muscular Exhaustion, J. Nutrition **21**: 489 (May) 1941; Blume, W., and others: Glycogen Deposit in the Liver, Heart and Body Musculature of Rats after Oral Administration of Glucose and Invert Sugar, Ztschr. ges. inn. Med. **5**: 105 (Feb.) 1950.

5. Fletcher, J. P., and Waters, E. T.: The Effect of Fructose on the Glucose Tolerance Curve, Biochem. J. **32**: 212 (Feb.) 1938; Corkill, A. B., and Nelson, J. F.: The Influence of Fructose upon the Peripheral Utilisation of Glucose, Australian J. Exper. Biol. & M. Sc. **18**: 171 (June) 1940; The Influence of Fructose on the Utilisation of Glucose by Isolated Muscle, ibid. **25**: 347 (Dec.) 1947.

result of the flood. Human casualties were miraculously few. Therefore, although a variety of disaster medical problems were presented, the medical care required was primarily of a preventive nature. This care for the most part consisted of (*a*) immunization, (*b*) segregating communicable diseases, (*c*) prevention of spread of pediculosis, (*d*) supervision of sanitary safeguards, such as water purification, and (*e*) treatment for exposure and colds.

These services were performed satisfactorily despite a number of unforeseen complications. The decrease in water pressure caused by the flood rendered inoperative the sanitary facilities in many doctors' offices and hospitals. Air conditioning was cut off in certain hospitals, resulting in a lack of ventilation. Sanitary safeguards were jeopardized because of a shortage of pure water. Other facilities imperative for maximum medical efficiency, such as lighting, heat, and refrigeration, were in imminent danger of failure.

In supplying disaster and rehabilitative services, almost complete reliance, at least in certain areas, was placed on the armed forces and private enterprise for supplies, personnel, and transportation. This method of operation was bound to raise questions as to the existence of a local civil defense organization and its ability to handle an emergency of this type.

A well-planned civil defense organization had been set up in the stricken areas. Although individual civil defense volunteers and scattered local civil defense units were utilized, the over-all civil defense organization was not called into action. The reason for this lack of civil defense activity was a provision in local civil defense legislation which limited employment of civil defense forces to situations resulting from an enemy attack. Since the time of the flood, an aroused and civic-minded citizenry has demanded revised legislation and a type of official thinking that will permit integrated disaster planning.

The concept of the meaning of "civil defense" in the minds of legislators and the general public is apparently too closely allied with atomic, biological, and chemical warfare. Actually civil defense means "the preparation for, and the carrying out of, all emergency functions, other than functions for which military forces or other federal agencies are primarily responsible, to prevent, minimize, and repair injury and damage resulting from disasters caused by enemy attack, sabotage, or other hostile actions or by fire, flood, or other causes." The flood, from which areas of Kansas and Missouri are still recovering, is the exact type of peacetime emergency which the definition of civil defense envisions.

Out of a disaster of this type we must learn certain specific lessons and come to a realization that living in the present era requires that organizations and individuals subject themselves to cooperative civil defense planning and practice. Some of the medical lessons would include (*a*) the necessity for stockpiling vital medical supplies by properly constituted civilian authorities; (*b*) the establishment of emergency water purification facilities; (*c*) the establishment of alternative emergency measures for supplying lights, heat, refrigeration, ventilation, etc., in hospitals and other permanent and improvised treatment centers; and (*d*) the formulation and implementation of adequate mutual aid and mobile support agreements.

In addition, it appears advisable to review local enabling legislation and remove any hampering limitations which preclude civil defense authorities from fulfilling their mission as outlined above. Probably as important as any of the items mentioned is the demonstrated need for clear-cut lines of authority. There can be no indecision, no vague chain of command, if an atomic bomb falls.

If we learn as a profession and as a nation from such national disasters as the Kansas-Missouri flood, the civil defense lessons which are thus so expensively taught, we may be prepared to cope with the infinitely greater emergency that an all-out war would bring. It is time to realize that civil defense is not a game or a scheme but, rather, a new and important civic responsibility and a pattern for national survival.

SUBNUTRITIONAL PHAGOCYTOSIS

Numerous investigators [1] have described an increased resistance to infectious disease due to undernourishment. In order to throw light on the probable mechanism of this subnutritional immunity, Kuna [2] and associates of the Veterans Administration Hospital, Staten Island, N. Y., studied the differences between in vivo phagocytosis in adequately fed and in partially starved laboratory animals. The work was done on adult albino rats. Prior to starvation each rat had received a plentiful supply of Rockland Farm "rat pellets," supplemented by greens. Phagocytic activity in rats deprived of food for 36 hours was compared with that of well-fed animals.

To make the tests 20 cc. of a standard suspension of nonhemolytic Staphylococcus aureus was injected intraperitoneally into each rat. Peritoneal samples were removed two to four hours later and examined for cellular content and phagocytic activity. The average number of leukocytes per cubic millimeter of peritoneal fluid was practically identical in the two series, i. e., 14,300 per cubic millimeter. Thirty-eight per cent of the leukocytes showed phagocytosis in the starved group, compared with but 19% in the controls. The average number of phagocyted bacteria was 423 per 100 leukocytes in the starved group and only 129 per 100 leukocytes in the controls. The starved rats thus showed twice the control percentage of phagocytizing leukocytes, each of which had engulfed on an average three times the control number of bacteria. The clinical significance of these observations is not yet evident, but the data accumulated suggest the need for additional studies.

1. Reiner, L., and Paton, J. B.: Apparent Increased Resistance of Vitamin B-Deficient Rats to Acute Infection, Proc. Soc. Exper. Biol. & Med. **30**: 345, 1932. Rous, P.: A Sarcoma of the Fowl Transmissible by an Agent Separable from the Tumor Cells, J. Exper. Med. **13**: 397, 1911. Kearney, E. B.; Pond, W. L.; Plass, B. A.; Maddy, K. H.; Elvehjem, C. A., and Clark, P. F.: Effect of Thiamine Deficiency on Western Equine Encephalomyelitis in Mice, J. Infect. Dis. **82**: 177, 1948.

2. Kuna, A.; Blattenberg, B., and Reiman, J.: Effect of Starvation on Phagocytosis in Vivo, Proc. Soc. Exper. Biol. & Med. **77**: 510, 1951.

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ORGANIZATION SECTION

FEDERAL MEDICAL LEGISLATION

Summary of Important Bills

Following is a brief summary of the more important medical and health legislative activities of the 82nd Congress, first session. All bills and resolutions not enacted into law during the first session could be considered and passed before the adjournment of the second session next year. The numbering of these bills remains the same and will continue consecutively for both sessions.

There were 9,615 legislative measures introduced, of which 179 were of such medical and health significance that they were analyzed and reported in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and followed by the Washington Office. Some of the legislation approved by the American Medical Association was enacted into law; none of the bills it actively opposed became law. There were no hearings on bills proposing national compulsory health insurance or federal aid to school health programs. Hearings were held on these subjects during the last Congress.

Bills Which Became Law

H. R. 3298, a bill originally introduced by Representative Durham of North Carolina, became Public Law 215 on Oct. 26, 1951. It amends the Federal Food, Drug and Cosmetic Act, defining prescription drugs by statute and requiring manufacturers to use a caution legend on them. It also legalizes telephone prescriptions from licensed practitioners. Pharmacists may refill prescriptions for nondangerous drugs without permission. It does not amend or conflict with the existing laws controlling narcotics. The law becomes effective April 26, 1952, and will be administered by the Food and Drug Administration.

S. 349, introduced by Senator Maybank, of South Carolina, became Public Law 139 on Sept. 1, 1951. This Defense Housing and Community Facilities and Service Act provides, among other things, for the authorization of loans and grants for construction of hospitals in certain areas designated by the President. Although this bill became law, Congress has not yet appropriated money necessary for launching the hospital phase of the program.

S. 1, originally introduced by Senator Johnson of Texas, amending the Selective Service Act and establishing a commission for studying universal military training, became Public Law 51, June 19, 1951. One of the changes which this law brings about is the extension of the period of service required under the doctor draft law from 21 to 24 months.

H. R. 3193, a bill introduced by Representative Rankin of Mississippi, became Public Law 149 on Sept. 21, 1951, after Congress over-rode a presidential veto. The law provides $120 monthly to veterans with non-service-connected disabilities who need the services of a full-time attendant at home. Other bills relating to veterans that became law are S. J. Res. 72, by Senator George of Georgia, which, as Public Law 28, makes veterans of the Korean War eligible for medical, hospital, compensation, and pension benefits to the same extent as veterans of World War II; H. R. 320, stating that psychoses developing in veterans of World War II and of the Korean war within two years following discharge from active service shall be presumed to be service connected; H. R. 3205, providing the same service connected presumption for multiple sclerosis; S. 1864, another bill that became law after Congress over-rode a veto by President Truman, extending for three years the program by which the government furnishes automobiles to certain eligible disabled veterans of World War II and the Korean war.

Progress of Major Health Bills

Several important health bills have passed either the Senate or the House, and these await action by the other body of Congress before becoming law. S. 445, which would provide federal grants to states for local public health units, passed the Senate by unanimous consent March 12, 1951, and was sent to the House. Hearings were held in the House on this bill and on H. R. 274, a companion bill, but the committee took no further action. H. R. 5426, which proposes to rewrite the laws pertaining to the reserve components setting up the Ready Reserve, Standby Reserve, and Retired Reserve, was passed by the House Oct. 15, 1951, and sent to the Senate. These bills are halfway through the legislative process, and their consideration by Congress probably will be continued during the second session.

Several bills likely to be acted on next year have been considered in committees, but none has passed either House of Congress. S. 337, Federal Aid to Medical Education, early in the first session was reported out of the Senate committee unanimously and without hearings. It was returned to the Senate Labor and Public Welfare Committee on Oct. 3, 1951, after the defeat of the first committee amendment. The committee on Oct. 18, 1951, two days prior to adjournment, again reported the bill and placed it on the calendar. H. R. 910, Federal Aid to Nurse Education, was the subject of public hearings by the House Interstate and Foreign Commerce Committee, but no further action has taken place. There is a companion bill in the Senate, but no hearings were held on it.

Of interest to the profession were several amendments to the tax bill: the Jenner amendment, permitting states to disclose names of public assistance recipients passed; the Ives amendment, which was withdrawn, would have permitted tax deduction for certain professional persons for annuity premiums; the Ecton amendment, which was defeated, would have permitted deduction of medical expenses from taxable income. A provision permitting such a deduction for persons over 65, however, was passed.

Special Studies and Investigations

Congress, especially the Senate, has been engaged in investigations and special studies of interest to the medical profession. The Senate Committee on Labor and Public Welfare, after a study made during the first part of the year, published a comprehensive report, "Health Insurance Plans in the United States," under the direction of Dr. Dean Clark. A Senate subcommittee investigated the administrative and professional policies and practices in the Veterans Administration after the discharge, last January, of Dr. Paul B. Magnuson. It made several recommendations for internal reforms, but no bill has yet been introduced to correct any deficiencies found. A special committee of the House has been making a study of the uses of chemical additives in food products to ascertain whether proper safeguards for consumers were being taken.

Pending Legislation to Be Considered Next Year

In addition to the bills mentioned above, on which some action has been taken, other subjects will probably receive attention by Congress next year. These include S. 1245, a bill introduced by Senator Humphrey of Minnesota, and S. 2337, introduced by Senator Lehman of New York, both to establish an emergency maternity and infant care program (EMIC). Several companion bills on this subject are pending in the House. S. 1140 would create a Department of Health with cabinet status, and several companion bills in the House are pending without prior activity during this Congress. S. 1875, a bill providing federal assistance to cooperative and other nonprofit health associations may be considered in the Senate. The subject of federal grants to states and counties for the prevention of chronic diseases (S. 2246) may receive additional consideration next year.

A more detailed report, summarizing federal legislative action on medical and health bills, appears in Bulletin No. 37, Nov. 16, 1951, published by the Washington Office.

FIFTH GENERAL ASSEMBLY OF THE WORLD MEDICAL ASSOCIATION

The Fifth General Assembly of the World Medical Association, which was held in Stockholm, Sweden, Oct. 15-20, 1951, was attended by representatives of 30 nations and 20 national and international organizations. In his opening address, the retiring president, Dr. Elmer L. Henderson of the United States, reviewed the activities of the association, the relationships that have developed with other international bodies, and its accomplishment in spreading international good will. The Swedish minister of the interior brought a message of greeting from His Majesty the King of Sweden, who was the patron of the assembly.

Dr. Dag Knutson of Sweden, the president-elect, was then inaugurated. In his address, Dr. Knutson recognized the increasing interchange of ideas between nations and international bodies. He stated that if the World Medical Association is to attain its high aims, including aiding all men to reach a better state of health, its work in the international field is indispensable.

The World Health Organization, the Committee for the Coordination of International Medical Congresses, and the International Labor Organization all presented greetings. Two new members were admitted, the national medical associations of Haiti and the Republic of South Korea. Delegates from Western Germany, Japan, and Thailand were present for the first time.

One of the important actions of the assembly was to demand revision of one section of the Draft Covenant on Human Rights. In this proposed article there is a statement that each state agrees to provide legislative measures to promote and protect health. The assembly paid tribute to the intent of the covenant and recognized that the highest standards of health should be available to all people. It also recognized that legislation is necessary to carry out certain aspects of the health problem. Nevertheless, the desired aims in some phases may be, and frequently are, accomplished with or without legislation or with legislation limited to certain categories of persons or services. The following statement appears in the resolution adopted by the assembly:

"The World Medical Association, however, is of the opinion that the proposed methods of implementation of the intent of this covenant are incomplete. The state is not the only body that can or should be called upon to provide the necessary service. The attempt to safeguard the rights of the individual has on certain points disregarded not only the rights of the people to determine certain matters for themselves but the right of certain voluntary groups to aid in raising the level of health. No provision is made for seeking the advice of those who are best qualified to implement any program of health, namely, the medical profession." It was decided to make a survey of the existence of certain types of cancer in relation to geographic and other conditions. In its study on hospitals, it was decided to expand it to cover hospital personnel.

Reports were received from the assistant secretaries for Latin America, Europe, Asia, and Australasia. The one exciting most comment was the one from Australasia, which outlined the new health program brought about in Australasia through the cooperation of the Australian Medical Association and the ministry of health of Australia.

In accepting the report of the Committee on Medical Care and Allied Subjects, of which Dr. R. L. Sensenich, U. S. A., is chairman, the assembly urged all national medical associations to press for controlled clinical trials in the country of origin of all new remedies before they are generally released for medical practice.

There was prolonged discussion on the report of the Committee on Medical Education (Dr. J. A. Pridham, England, chairman). The assembly decided to sponsor an International Conference on Medical Education in 1953. This conference will bring together representatives of medical education and practicing physicians from all over the world. Three general topics will be discussed.

1. What is the aim of undergraduate medical education?

2. What should be the requirements for entrance to medical study?

3. What stress should be placed in the curriculum on preventive medicine, social medicine, general clinical medicine, specialization, and psychosomatic medicine? Other international organizations, such as WHO, CCICMS, and UNESCO, will be invited to participate.

A long discussion took place on the report of the Committee on Social Security (Dr. Dag Knutson, Sweden, chairman). In discussing this report, Dr. P. Glorieux of Belgium stated that constructive action must develop from study and research on this problem. The prestige of WMA can be maintained and further developed only by converting thought and speech into action.

It was apparent from the discussion that there was an increasing tendency for government inroads into the practice of medicine and that no one present was in favor of state medicine. While the problem varies somewhat in the various countries and the solution of the problem must also vary, the undercurrent of the discussion and consensus of the speakers is shown by the following statements.

Dr. Cibrie of France stated that voluntary insurance is the system of preference, for it stimulates personal responsibility. Dr. Moran of Ireland commented that human rights imply personal responsibility and that the first human responsibility is the right of the individual to work out his own spiritual and material salvation. The Australian report stated that the cancer of social regimentation must be avoided at all costs.

Dr. Gregg of Great Britain remarked that the medical profession might help governments to find more profitable fields if it carried on speaking and activity in such matters as housing, nutrition, and labor conditions. If these matters were attended to, he said, there would be less need for medicine and doctoring in the ordinary sense of the terms. Several national associations presented resolutions which were adopted calling on the association for action in various fields.

A scientific session was held, and the following papers were given: "Prophylactic Treatment Against Pulmonary Tuberculosis," by Prof. Arvid Wallgren, Stockholm; "Therapeutic Treatment in Pulmonary Tuberculosis," by Dr. Kjeld Torning, Copenhagen; and "Cardiovascular Diseases as a Problem of Medical Organization," by Dr. Gunnar Biorck, Malmo, Sweden.

Television of surgical operations was provided every morning by E. R. Squibb & Sons.

Athens, Greece, was selected as the site of the Sixth General Assembly (1952). Amsterdam, Holland, was chosen for the Seventh General Assembly (1953), and Rome, Italy, for the Eighth General Assembly (1954).

Prof. Georges Krimpas of Greece is the new president-elect. New members of the council are Dr. P. Glorieux of Belgium, Dr. E. L. Henderson of the United States, and Dr. L. R. Mallen of Australia.

Other events in connection with the meeting were visits to Karolinska and Söder Hospital, the two largest and most modern hospitals in Sweden. Social events included the Annual Dinner of the World Medical Association, tendered by the Swedish Medical Association at the Grand Hotel. At this dinner the Flag of the World Medical Association was presented to the Swedish Medical Association. A soirée at the National Museum provided the delegates and their guests with an opportunity to enjoy the art collection and listen to a concert of Swedish music played by a string ensemble.

One day was devoted to an excursion through Stockholm. The delegates and their guests were taken by motor boat under the numerous bridges of Stockholm to the home of the late Prince Eugen at Valdemarsudde. Luncheon was served at the open-air Museum Shansen. After luncheon the excursion continued through the magnificent Town Hall and then to Drottningholm, the summer residence of the late King Gustaf V. Tea was served, and the day was concluded with a program at the Drottningholm Theatre, in which original scenes, costumes, and scripts of the 17th century are still used.

From both a social and a business standpoint, this was the most successful general assembly the World Medical Association has ever held. The activities are now beginning to take definite form toward the fulfilment of the objectives of the association, and the delegates returned to their home countries convinced of the need to further the work of the association and with high regard for the hospitality of Swedish physicians.

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MEDICAL NEWS

CALIFORNIA

Mobile Physical Therapy Unit.—On October 1 the Northern California Chapter of the Arthritis and Rheumatism Foundation initiated a mobile physical therapy unit for rheumatoid arthritics who reside in San Francisco. The unit operates under the guidance of the foundation's medical and scientific committee and is designed to provide prescribed physical therapy to patients unable to leave their homes. Treatments are administered by a registered therapist who also trains the patients to help themselves. For the present, service will be limited to patients of arthritis clinics which provide social service. All treatments will be on a basic visit charge, adjustable to the ability of the patient to pay. Clinic social service workers will determine the patient's fee classification. Eventually the service may be made available to private patients of physicians specializing in this field. The Mobile Therapy Unit has been made possible by the contributions received in the past; contributions in the future will determine the extent to which the project may be carried on.

CONNECTICUT

Personal.—Ira V. Hiscock, chairman, department of public health, Yale University, New Haven, has been appointed chairman of the Health Information Foundation's Advisory Committee on Community Health Facilities Research, succeeding the late Dr. John B. Pastore.

Funds for Medical Education.—The Connecticut State Medical Society will canvass every member in a campaign for the American Medical Education Foundation. The canvass is under the direction of the society's Committee on Public Relations, Dr. William G. H. Dobbs, Torrington, chairman.

Professional Relations in Medical Care Insurance.—The Council of New England State Medical Societies held a symposium on this subject November 18 in Boston. "Medical Service Insurance Plans Viewed by Practicing Physicians" was discussed by Drs. Charles L. Farrell, Pawtucket, R. I.; Joseph A. Holmes, Waltham, Mass.; and Daniel J. Sullivan, Nashua, N. H. In addition to officials of the Blue Shield Plan, Dr. William H. Horton, New Haven, Conn., managing director of the Connecticut Medical Service, spoke on "The Structure of Fee Tables in Medical Service Insurance." The after-dinner speaker was Dr. Louis H. Bauer, Hempstead, Long Island, N. Y., President-Elect, American Medical Association.

GEORGIA

Symposium on Exfoliative Cytology.—The Medical College of Georgia announces a second symposium on exfoliative cytology, cancer detection and diagnosis, for Dec. 9-11, 9-14, and 9-21. This will be presented under the direction of Dr. Haims E. Nieburgs and staff. In addition to the faculty of the medical college, the following guest lecturers are scheduled: Dr. Leland D. Stoddard, Kansas City, Kans.; Dr. Abraham E. Rakoff, Philadelphia; Dr. Willis E. Brown, Little Rock, Ark.; Col. Joe M. Blumberg, Washington, D. C.; Mrs. Ruth M. Graham, Boston; Dr. Louis M. Hellman, Brooklyn; Joseph K. Cline, Ph.D., Birmingham, Ala.; Dr. W. Kenneth Cuyler, Durham, N. C.; Dr. John E. Dunn Jr., Bethesda, Md.; Dr. Mortimer A. Benioff, San Francisco; Dr. Peter A. Herbut, Philadelphia; Dr. Ira T. Nathanson, Boston; Dr. Paul Wermer, Chicago, and Dr. Ingrid Stergus, Rome, Ga. A concentrated program of teaching on the fundamentals of cancer, cytology, and diagnostic procedures is provided. Adequate facilities are offered for microscopic and laboratory practice. A second week is offered for those who wish to devote their time entirely to the study of the ample material available.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

ILLINOIS

Civil Service Examinations.—Physicians, psychiatrists, and tuberculosis control physicians are being offered immediate civil service employment with the state of Illinois through continuous examinations. State residence is not necessary. Candidates do not take a written examination. Positions are offered immediately to those who qualify after an oral test or interview. Application forms may be obtained from the Illinois Civil Service Commission, Armory Building, Springfield, Ill.

Chicago

Personal.—At the International Congress on Allergy held at Zurich in September, Dr. Samuel M. Feinberg was chosen president-elect of the newly formed International Association of Allergology.

Promotions to Full Professors.—The following five members of the University of Chicago Medical School have been named to full professorships: Drs. J. Garrott Allen and Dwight E. Clark (surgery), Leon O. Jacobson and Joseph B. Kirsner (medicine), and F. Howell Wright (pediatrics).

Gradle Eye Section Dedicated.—The new $12,000 Harry S. Gradle eye section of the Mandel Clinic at Michael Reese Hospital was dedicated October 13. Dr. Gradle, who died in May, 1950, had practiced more than 35 years in Chicago. The section will be used to treat Mandel Clinic patients and for physicians to receive training in ophthalmology.

Fenger Lecture.—The 15th Christian Fenger Lecture of the Institute of Medicine of Chicago and the Chicago Pathological Society will be given at 8 p. m. November 23 at the Palmer House by Anton J. Carlson, Ph.D., Frank P. Hixon Distinguished Service Professor of Physiology Emeritus, University of Chicago. He will speak on "Some Medicosocial Problems Created by Modern Medicine."

Annual Meeting of Institute of Medicine.—The annual dinner of the Fellows of the Institute of Medicine of Chicago will be held at the Furniture Club of America December 4. The presidential address will be delivered by Dr. Walter H. Theobald, clinical professor of otolaryngology, University of Illinois College of Medicine, and president of the Chicago Medical Center Commission, on "The Medical Center District—Its Civic Significance."

Blood Bank at Billings Hospital.—The Bernard Brown Blood Bank at Albert Merritt Billings Hospital was dedicated November 11. It will supply whole blood and plasma to physicians and research workers studying cancer at Nathan Goldblatt Cancer Research Hospital and cancer units of the University of Chicago Medical Center. Funds for the bank were raised by employees of Goldblatt Brothers stores. The bank was named for Mr. Brown, who was vice-president of the company before he was killed in an automobile accident last spring.

LOUISIANA

Annual Lectures.—The annual Oncology Lecture of the Louisiana State University School of Medicine will be delivered November 29 at 8:15 p. m. in Charity Hospital Auditorium, New Orleans. Dr. Gustaf E. Lindskog, professor of surgery, Yale University School of Medicine, New Haven, Conn., will speak on "Diagnosis and Treatment of Mediastinal Tumors."

The annual Musser Lecture of Tulane University of Louisiana School of Medicine will be given by Dr. O. H. Perry Pepper, professor of medicine at the University of Pennsylvania, Philadelphia. He will speak at 8 p. m. November 30 in Hutchinson Memorial Auditorium, New Orleans, on "Geriatrics, Past, Present and Future." Preceding the lecture the Musser portrait by Dr. Hugo T. Engelhardt will be unveiled.

MARYLAND

Personal.—Dr. Donald F. Proctor, associate professor of otolaryngology at Johns Hopkins University School of Medicine, Baltimore, has been appointed professor of anesthesiology and anesthesiologist-in-charge at Johns Hopkins Hospital.

Committee for the Study of Pelvic Cancer.—This committee, authorized April 23 by the house of delegates of the Medical and Chirurgical Faculty of the State of Maryland, has opened an office in the Medical and Chirurgical Faculty Building, 1211 Cathedral St., Baltimore, to study delay periods in the treatment of pelvic cancer and to attempt to reduce this period of delay when possible through open discussion and education. Meetings will be held the third Thursday of each month from 5 to 6 p. m., when selected cases will be discussed. Officers of the committee, all of Baltimore, are Dr. Richard W. TeLinde, chairman; Dr. J. Mason Hundley Jr., vice-chairman, and Dr. Beverly C. Compton, secretary-treasurer.

MASSACHUSETTS

Evening Lecture Series.—The House Officers' Association of the Boston City Hospital has added the following to its evening lecture series:

Dec. 4, Developmental Diagnosis of Infant Behavior: Its Role in Clinical Pediatrics and Child Psychiatry, Dr. Arnold L. Gesell, New Haven, Conn.
Dec. 11, Cardiovascular Visualization, Dr. Charles T. Dotter, New York.

These programs will be held at 7 p. m. in the New Cheever Amphitheatre of the Dowling Building of Boston City Hospital.

Retina Foundation.—The Retina Foundation, begun in April, 1950, has now been organized as a new basic research unit of the Massachusetts Eye and Ear Infirmary, Boston. The foundation, located at 30 Chambers St., Boston, includes laboratories for biochemistry, electron microscopy, tissue culture, and optics. Dr. Charles L. Schepens is director and Dr. E. A. Balazs associate director. The Retina Foundation has received grants from the U. S. Public Health Service, the American Optical Company, the Kresge Foundation, the G. M. Hyams Fund, Inc., the Vivian B. Allen Foundation, the National Council to Combat Blindness, Inc., the Office of Naval Research, and the Committee of the Permanent Charity Fund, Inc.; it is also supported by donations from interested individuals. The work was supported in its initial stages by the Veterans Administration.

MICHIGAN

Tuberculosis Case Finding at Fairs.—Mobile tuberculosis case-finding units of the Michigan Department of Health, operating at 23 fairs this summer and fall, x-rayed the chests of 53,982 persons and found 1,124 chest abnormalities, including 560 cases of suspected tuberculosis. Where the small x-ray film indicated a chest abnormality, the individual was advised by mail to see his physician for a complete examination and any needed treatment. About half the abnormalities found were due to conditions other than tuberculosis.

MISSOURI

Dr. Casberg Resigns as Dean.—Dr. Melvin A. Casberg, since Aug. 1, 1949, dean of St. Louis University School of Medicine, has resigned, effective July 1, 1952, because of an acute sensitivity to giant ragweed pollen found in the St. Louis area, which will necessitate a change of residence.

Director of Mental Health Foundation.—Dr. Milton E. Kirkpatrick, director of the Institute of Mental Hygiene in New Orleans, has become director of the Greater Kansas City Mental Health Foundation. This is a collaborative project of Kansas City, the Community Chest, and the Greater Kansas City Association of Trusts and Foundations, designed to coordinate all the mental health activities in that area. In conjunction with the Kansas City General Hospital, a 100-bed psychiatric receiving center will be erected for which the mental health foundation will be responsible. The Child Guidance Clinic and the Kansas City Mental Hygiene Society will also come under its direction. The foundation has made an initial grant of $250,000 for the development of services of the program. Public education as well as outpatient clinical services for adults and children will be developed. A training program and research unit for which funds are available, will be organized in the near future.

NEW JERSEY

Public School for Palsied Children.—A public school for 49 cerebral palsied children, who have never attended public school, was opened in Clifton this fall in the Passaic County Elks Cerebral Palsy Center. The children will receive both schooling and therapeutic training there. Specially constructed chairs and tables are provided. Subjects are those taught in the city's regular public schools. Funds for the school are furnished by Clifton and the state, with Passaic County communities paying a share for each cerebral palsied child sent to the school. The three teachers have no more than ten pupils in the class at one time as instruction is largely on an individual basis.

NEW YORK

Public Meeting on Cancer.—The 14th annual public meeting of Nassau County Committee of the American Cancer Society will be held November 29 at the Garden City Hotel. This yearly event, formerly known as the Cancer Institute, is designed to acquaint community leaders with the over-all picture of the cancer problem. The luncheon meeting will be followed by a panel discussion.

Postgraduate Anesthesiology.—The New York State Society of Anesthesiologists will hold its fifth annual Postgraduate Assembly Dec. 5-8 at the Hotel New Yorker in New York. There will be 10 scientific sessions in panel format. One panel will be presented by residents and fellows in anesthesiology discussing original investigations in which they have participated. Physicians desiring to attend may secure a registration form from the office of the society at 137 W. 11th St., New York.

Appoint Assistant Dean for Postgraduate Education.—The University of Buffalo has established an assistant deanship for postgraduate education in its school of medicine. Dr. Milton Terris, who has been appointed to the new post, will supervise the school's postgraduate program in western New York and its courses for physicians in such fields as cancer, heart, and pediatrics, and in general medicine and surgery. His appointment follows a grant of $24,500 to the university by the state health department for expansion of regional postgraduate education for physicians in Erie, Niagara, Genesee, Wyoming, Cattaragus, and Chautauqua counties. The program provides for the conduct of conferences by university faculty members at hospitals in the area and for the assignment of residents from affiliated hospitals in Buffalo to the community hospitals requesting them. Five hospitals are now associated in the regional program, Wyoming County Community Hospital in Warsaw, Genesee Memorial Hospital in Batavia, Mount St. Mary's Hospital in Niagara Falls, Brooks Memorial Hospital in Dunkirk, and Olean General Hospital in Olean, and it is planned to extend the service to other hospitals in the area. Dr. Terris has been associate state health officer in Buffalo and in 1945-1946 taught public health and preventive medicine in the university.

New York City

Personal.—A testimonial dinner to Dr. Martin G. Vorhaus, chief of medical services at the Hospital for Joint Diseases, was given Oct. 11. Dr. Vorhaus has resigned from the hospital with which he has been associated for 25 years to become director of a hospital in Toledo, Ohio. The dinner was given by the trustees, medical advisory board, and the medical staff.

Schoenberg Lecture on Glaucoma.—Dr. Paul A. Chandler, Boston, surgeon at the Massachusetts Eye and Ear Infirmary, will deliver the fifth annual Mark J. Schoenberg Lecture on Glaucoma at the New York Academy of Medicine December 3 at 8:30 p. m. on "Narrow Angle Glaucoma." This lectureship was established as a memorial to the late Dr. Schoenberg. It is jointly sponsored by the National Society for the Prevention of Blindness and the New York Society for Clinical Ophthalmology.

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Society News.—The New York Institute of Clinical Oral Pathology held its 150th monthly conference in Hosack Hall at the New York Academy of Medicine on Oct. 29. Dr. Hans Selye, professor and director of the Institute of Experimental Medicine and Surgery, University of Montreal, spoke on "General-Adaptation-Syndrome (including the actions of corticotropin [ACTH], cortisone, and 'somatrofin' [STH], a hormone from beef pituitary glands)."——Dr. Arthur A. Knapp of the teaching staff of New York Medical College will read a paper entitled "Treatment of Eye Disease by Cure of Oral Foci" at the next monthly conference of the New York Institute of Clinical Oral Pathology, which will be held Monday evening, November 26, at the New York Academy of Medicine, Room 440, at 9 p. m.

NORTH CAROLINA

Dr. Gardner Named to Board of Surgery.—Dr. Clarence E. Gardner Jr., professor of surgery, Duke University School of Medicine, Durham, has been elected to the examining board of the American Board of Surgery for a six-year term. Membership on the board is limited to 13 surgeons in the United States.

Symposium at Raleigh.—At a medical-surgical symposium of the Raleigh Academy of Medicine November 2 discussions were held on endocrine diseases. Visiting speakers were Dr. Joseph C. Aub, Boston; Dr. George Crile Jr., Cleveland; Dr. F. Curtis Dohan, Philadelphia, and Dr. Howard F. Root, Boston.

OHIO

Hospital News.—Two additional wings of the receiving hospital at Toledo State Hospital are under construction. The administration wing, among other parts, contains an insulin ward with a recreation room for patients. The patients' wing will provide room for 50 more patients.

Cincinnati Academy of Medicine Programs.—The Academy of Medicine of Cincinnati published its complete scientific program for the year in the October issue of the *Cincinnati Journal of Medicine*. Programs through January are as follows:

Nov. 27, William Dameshek, Boston, Current Concepts of the Purpuras.
Dec. 4, Alan R. Moritz, Cleveland, Medico-Legal Problems.
Jan. 8, John H. Talbott, Buffalo, Gout.
Jan. 22, Panel discussion on Hypertension, Paul D. White, Boston; Irvine H. Page, Cleveland, and Reginald H. Smithwick, Boston.

TEXAS

Children's Medical Center.—A new $4 million hospital and medical center for crippled children is to be set up in Fort Worth. About $1,250,000 has been given to the W. I. Cook Memorial Trust under an agreement providing for conversion of W. I. Cook Memorial Hospital and funds of the Fort Worth Children's Hospital into a new children's medical center. The center is to be known as the W. I. Cook Memorial Hospital for Children. The unit for treatment of crippled children will be designated the Tom B. Owens Institute for Crippled Children. Conversion of Cook hospital into the children's medical center is expected to be completed by December, 1952. Its present value including endowments exceeds $2 million. The Fort Worth Children's Hospital is valued at about $750,000. Expansion plans call for facilities for 75 to 100 children in the new hospital.

WISCONSIN

Infectious Disease Control Unit.—A new infectious disease control unit sponsored by the Marquette University Medical School has been opened at Milwaukee County Hospital. Dr. Francis D. Murphy, head of the Marquette department of medicine, is director of the new unit, which will provide patients having noncontagious infections with all known drugs for fighting these infections. The unit's purpose is to determine which drugs will be beneficial in infectious disease. The program will have a teaching function for the hospital house staff and residents and will offer a consultation service for doctors at the hospital. An anonymous Milwaukee benefactor donated money for the project.

GENERAL

Borden Award.—Dr. Edwin Bennett Astwood of Tufts College Medical School, Boston, received the 1951 Borden Award at the recent annual dinner of the Association of American Medical Colleges in French Lick, Ind. The award, given for research in production of corticotropin (ACTH), is $1,000 in cash and a gold medal.

Much More Measles.—The U. S. Public Health Service, National Office of Vital Statistics, reports that the number of cases of measles for the week ended November 3 (2,085) is more than 50% greater than that for the same week last year (1,315). More than two-thirds of the cases for the week were reported in the New England, Middle Atlantic, and East North Central states.

North Pacific Surgical Association.—This association held its annual meeting November 16-17 in Vancouver, B. C., under the presidency of Dr. Lee Smith, Vancouver, B. C. Dr. Frederick G. Kergin, associate professor of surgery, University of Toronto, Canada, was the guest speaker and delivered the Founders Lecture, on "An Alternative Treatment for Certain Cases of Carcinoma of the Rectum."

American Academy of Forensic Sciences.—The fourth annual meeting of the American Academy of Forensic Sciences will be held March 6-8, 1952, at the Biltmore Hotel, Atlanta, Ga. Those interested in presenting papers are urged to submit their titles immediately to Dr. Abraham W. Freireich, Program Chairman, 180 Hempstead Avenue, Malverne, N. Y. The complete proceedings of the third meeting of the academy are in the hands of the printer. Orders for the proceedings may be filed with Prof. Ralph F. Turner, Department of Police Administration, Michigan State College, East Lansing, Mich. The price is $8 per copy.

International Pharmacopoeia Published.—The first volume of the first International Pharmacopoeia setting uniform standards for important drugs was published October 30 by the World Health Organization in Geneva. The book, prepared on the recommendation of 79 member states by the World Health Assembly, contains descriptions of 200 important drugs defined by chemical, physical, and biological tests and is expected to bring uniformity in standards for drugs utilized throughout the world. The first volume also contains 43 appendixes containing instructions for establishing purity and strength of drugs. The names of drugs are given in Latin. Their adoption will prevent confusion arising from the use of different names for the same drug. The second volume, now under preparation, will deal with penicillin, streptomycin, and other antibiotics. An expert committee of the World Health Organization is meeting in Geneva under the chairmanship of Dr. Charles H. Hampshire of London to prepare the second volume. The first volume is now available in English and French. A Spanish edition will be published in the near future.

Prentiss Award in Health Education.—The Cleveland Health Museum has selected Sally Lucas Jean, former director, Health Education Division, American Child Health Association, and retired director, Education Service, National Foundation for Infantile Paralysis, as recipient of the museum's eighth Elisabeth S. Prentiss National Award in Health Education. The placque and citation, given annually, was presented October 30 at the 11th annual breakfast meeting of the museum's national advisory council, held in San Francisco. In addition to her work as director of the two national organizations mentioned, between 1910 and 1917 Miss Jean served as school nurse in Baltimore, organized its demonstration school in the department of education, and was a lecturer for the Children's Playground Association, Baltimore. Between 1918 and her retirement from the National Foundation for Infantile Paralysis in 1951, she organized the department of health service, People's Institute, N. Y., directed the Child Health Organization of America, developed a health education program for schools in Panama Canal Zone, served in the Philippines and Virgin Islands, and was supervisor of health education for the U. S. Indian Service.

State and Territorial Health Officers.—General Sessions of the annual conference of the Surgeon General of the Public Health Service and the chief of the Children's Bureau with the State and Territorial Health Officers, State Mental Health Author-

ities, and State Hospital Survey and Construction Authorities will be held November 26-29 in the Auditorium of the Federal Security Building in Washington, D. C. At the Monday morning program addresses will be given by Oscar Ewing, administrator of the Federal Security Agency, Surgeon General Leonard A. Scheele, and Dr. Martha M. Eliot, chief of the Children's Bureau. Elmer B. Staats, assistant director of the Bureau of the Budget, will speak on "Federal Budgetary Procedures and Their Relation to Operating Programs." Community Heart Programs and Congenital Heart Disease will be discussed Wednesday morning by Drs. T. Duckett Jones, New York, and Willis J. Potts, Chicago, respectively. The Public Health Problem of Defense Impact Areas will be presented by Drs. Joseph W. Mountin, Washington, D. C., Mr. Allen Pond, Dr. Katherine Bain, Washington, D. C., and Miss Mildred Arnold. Dr. J. W. Knutson will speak on "Fluoridation of Water Supplies." The conference dinner is scheduled for Monday night.

Western Surgical Association Meeting.—The annual meeting of this association will be held November 29-December 1 at the Broadmoor Hotel in Colorado Springs, Colorado, under the presidency of Dr. Erwin R. Schmidt, Madison, Wis. Those speaking by invitation include the following:

Arthur J. Hunnicutt, Oakland, Calif., Total Gastrectomy with Transposition of the Terminal Ileum and Right Colon.
John Reid Brown and John William Derr, both of Detroit, Arterial Blood Supply of the Human Stomach.
H. Mason Morfit, Denver, Management of Head and Neck Cancer by the General Surgeon.
Walter W. Carroll, Chicago, Application of Combined Hemimandibulectomy and Neck Dissection to Oral Carcinoma.
Richard M. Zollinger and Wells H. Teachnor, both of Columbus, Ohio, The Late Results of Inferior Vena Caval Ligations.
Mordant E. Peck and Robert F. Grover, both of Denver, Cardiovascular Responses to Acute Portal Vein Ligation.
Russell R. Klein and Robert A. Scarborough, both of San Francisco, Diagnosis and Treatment of Polyps of the Colon.
Richard Patton, Columbus, Ohio, Potassium Depletion in Surgical Patients.

At the annual dinner, following a cocktail hour at 6:30 p. m., Robert L. Stearns, LL.D., president of the University of Colorado, Denver, will be the speaker.

Radiological Society to Meet in Chicago.—The Radiological Society of North America will hold its annual meeting at the Palmer House in Chicago, December 2-7. Those speaking by invitation include:

Edward C. Stafne, D.D.S., Dental Roentgenologic Aspects of Systemic Disease.
Loyal Davis, Chicago, and Stanton L. Goldstein, Hines, Ill., Diagnosis and Localization of Organic Lesions of the Central Nervous System Using Radioactive Diiodofluorescein.
Erik Poppe, Oslo, Norway, Bronchography with Water-Soluble Resorbable Contrast Material.
Sidney C. Werner, Howard Hamilton, and Martha Romanchuk, all of New York, Therapeutic Effects in Hyperthyroidism from Repeated Tracer Doses of Radioiodine.
J. J. Stevenson, London, Horizontal Body Section Radiography.
Vern W. Ritter, Philadelphia, Roentgen Doses During Diagnostic Procedures.
Major Marvin M. Keirns, U. S. Army (M.C.), Denver, Two Unusual Tumors of the Diaphragm.

In addition, there will be a symposium on pediatrics Monday afternoon, in which Dr. William M. Benzing Jr. and Dr. Samuel B. Chapman Jr., both of Kansas City, Mo., will be guest speakers. The Rocky Mountain Radiological Society will present a symposium on gastritis Wednesday afternoon, on which invited speakers are Drs. Frank B. McGlone, Denver; Leonard W. Larson, Bismarck, N. D.; Robert R. Kling, Grand Forks, N. D., and William B. Dublin, Fort Logan, Colo. Five papers will be presented in a symposium on radioactive isotopes Thursday afternoon. Invited speakers include George A. Boyd, M.S., and Drs. Marshall H. Brucer, Oak Ridge, Tenn.; Harry D. Bruner, Chapel Hill, N. C.; Jesse Perkinson, Ph.D., Oak Ridge, Tenn., and Gould A. Andrews, Oak Ridge, Tenn. Dr. Robert S. Stone, professor of radiology at the University of California Medical School, San Francisco, will deliver the Carman Lecture, on "The Concept of a Maximum Permissible Exposure," on Tuesday at 8 p. m. The annual banquet will be held Friday at 7 p. m.

Society Elections.—The Association of Military Surgeons of the United States at its annual convention in Chicago in October elected Major General Harry G. Armstrong, Surgeon General of the Air Force, as president. Rear Admiral Winchell McK. Craig, U. S. N. R., Mayo Clinic, Rochester, Minn., was elected as vice-president. Col. James M. Phalen, retired, Washington, D. C., was reelected secretary and Stuart E. Womeldorph, D.C.L., Washington, D. C., was reelected executive secretary. ——Dr. Frederick C. Cordes, San Francisco was named president-elect of the American Academy of Ophthalmology and Otolaryngology Oct. 18 at the annual session in Chicago. Three vice-presidents also were elected: Drs. Georgiana M. Dvorak Theobald, Oak Park, Ill.; Percy E. Ireland, Toronto, Canada, and John S. McGavic, Bryn Mawr, Pa. Dr. William L. Benedict, Rochester, Minn., was reelected executive secretary-treasurer. Presidents of the academy are elected a year in advance and take office on Jan. 1 following the annual meeting. The incoming president will be Dr. James Milton Robb, Detroit, who assumes the office on January 1, 1952.——Officers of the American Dermatological Association, Inc., for 1951-1952 include Dr. Edward A. Oliver, Chicago, president; Dr. Frederick M. Jacob, Pittsburgh, vice-president; Dr. Louis A. Brunsting, Rochester, Minn., secretary; and Dr. Eugene F. Traub, New York, treasurer.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States in the weeks ended as indicated:

Area	Nov. 10, 1951	Nov. 3, 1951	Nov. 11, 1950
New England States			
Maine	1	..	2
New Hampshire	..	..	2
Vermont	..	..	..
Massachusetts	4	2	12
Rhode Island	1	1	1
Connecticut	7	4	16
Middle Atlantic States			
New York	27	53	107
New Jersey	4	13	29
Pennsylvania	21	13	48
East North Central States			
Ohio	12	38	65
Indiana	10	4	31
Illinois	27	32	50
Michigan	36	49	64
Wisconsin	29	45	44
West North Central States			
Minnesota	13	23	13
Iowa	10	8	21
Missouri	20	46	14
North Dakota	1	6	1
South Dakota	1	1	4
Nebraska	8	9	11
Kansas	18	28	18
South Atlantic States			
Delaware	1	1	1
Maryland	..	1	7
District of Columbia	1	1	5
Virginia	4	4	28
West Virginia	7	14	9
North Carolina	4	4	14
South Carolina	..	1	5
Georgia	7	17	29
Florida *	..	1	11
East South Central States			
Kentucky	15	..	6
Tennessee	13	22	13
Alabama	11	16	3
Mississippi	18	23	17
West South Central States			
Arkansas	6	8	4
Louisiana	22	8	10
Oklahoma	7	9	9
Texas	49	46	37
Mountain States			
Montana	1	5	3
Idaho	7	14	4
Wyoming	12	12	..
Colorado	11	19	6
New Mexico	8	12	3
Arizona	8	7	5
Utah	13	12	..
Nevada	..	1	..
Pacific States			
Washington	21	18	23
Oregon	17	26	28
California	106	125	62
Territories and Possessions			
Alaska	..	..	2
Hawaii	1	..	..
United States	620	803	892

* Report from Florida was not received.

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CORRECTION

Industrial Medicine and Surgery.—In the paper by John Eric Dalton in THE JOURNAL, Oct. 27, 1951, the statement at the top of page 800, to the effect that *Industrial Medicine and Surgery* was combined in 1950 with other journals to form the *Archives of Industrial Hygiene and Occupational Medicine* was incorrect. *Industrial Medicine and Surgery* is still being published. It was *The Journal of Industrial Hygiene and Toxicology* and *Occupational Medicine* which were combined to form the *A. M. A. Archives of Industrial Hygiene and Occupational Medicine.*

MEETINGS

AMERICAN MEDICAL ASSOCIATION CLINICAL SESSION, Los Angeles, Dec. 4-7. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Mayfair Hotel, Los Angeles, Dec. 3-4. Dr. Edwin P. Jordan, Box 114, Charlottesville, Va., Executive Director.

AMERICAN PSYCHOANALYTIC ASSOCIATION, Waldorf-Astoria Hotel, New York, Dec. 6-9. Dr. LeRoy M. A. Maeder, 1910 Rittenhouse Square, Philadelphia 3, Secretary.

ANNUAL CONGRESS ON INDUSTRIAL HEALTH, William Penn Hotel, Pittsburgh, Jan. 18-19. Dr. Carl M. Peterson, 535 N. Dearborn St., Chicago 10, Secretary.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 14-15. Dr. Clarence C. Hare, 170 Maple Ave., White Plains, N. Y., Secretary.

ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS, Washington, D. C., Nov. 26-30. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, Municipal Auditorium, San Antonio, Jan. 22-24. Dr. John J. Hinchey, P. O. Box 2445, San Antonio 6, Secretary.

MEDICAL PUBLIC RELATIONS CONFERENCE, Biltmore Hotel, Los Angeles, Dec. 2-3. Mr. Leo E. Brown, 535 N. Dearborn St., Chicago 10, Director.

PUERTO RICO MEDICAL ASSOCIATION, Santurce, Dec. 12-16. Dr. Victor J. Montilla, P. O. Box 3866, Santurce, Secretary.

RADIOLOGICAL SOCIETY OF NORTH AMERICA, Chicago, Dec. 3-7. Dr. Donald S. Childs, 713 E. Genesee St., Syracuse 2, N. Y., Secretary.

SOUTHERN SURGICAL ASSOCIATION, The Homestead, Hot Springs, Va., Dec. 4-6. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn. Secretary.

WESTERN SURGICAL ASSOCIATION, Broadmoor Hotel, Colorado Springs, Colo., Nov. 29-Dec. 1. Dr. Michael L. Mason, 154 E. Erie St., Chicago 11, Secretary.

INTERNATIONAL

AUSTRALASIAN MEDICAL CONGRESS, Melbourne Victoria, Australia, Aug. 22-30. Dr. C. H. Dickson, Medical Society Hall, 426 Albert St., East Melbourne, Victoria, Australia, Hon. General Secretary.

COMMONWEALTH AND EMPIRE HEALTH AND TUBERCULOSIS CONFERENCE, Central Hall, London, England, July 8-13. Dr. J. H. Harley Williams, Tavistock House North, Tavistock Sq., London, W.C.1, England, Secretary General.

INTERNATIONAL COLLEGE OF SURGEONS, Madrid, Spain, May 20-24. Dr. Max Thorek, 850 West Irving Park Road, Chicago, Ill., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, Mexico City, Mexico, Dec. 11-19. Mrs. Grace E. O'Neill, Division of World Affairs, National Association on Menal Health, 1790 Broadway, New York 19, N. Y., U. S. A.

INTERNATIONAL CONGRESS ON NEUROPATHOLOGY, Rome, Italy, Sept. 8-13. Dr. Armando Ferraro, 722 W. 168th St., New York, N. Y., U. S. A., Secretary General.

INTERNATIONAL CONGRESS OF PHYSICAL MEDICINE, London, England, July 14-19. Dr. A. C. Boyle, 45, Lincoln's Inn Fields, London, W.C.2, England, Hon. Secretary.

LATIN AMERICAN CONGRESS OF PHYSICAL MEDICINE, Panama City, R. P., Feb. 24-29. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York, N. Y., U. S. A., Executive Director.

NEURORADIOLOGIC SYMPOSIUM, Stockholm, Sweden, Sept. 17-20. Docent Ake Lindbom, Symposium Neuroradiologicum, Serafmerlasarettet, Stockholm K., Sweden, Secretary.

PAN AMERICAN CONGRESS OF OPHTHALMOLOGY, Mexico City, Mexico, Jan. 6-12. Dr. Luis Sanchez Bulnes, Gomez Farias 19, Mexico 4, D.F., Secretary-General.

PAN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY AND BRONCHOESOPHAGOLOGY, Havana, Cuba, Jan. 20-24.

PAN AMERICAN CONGRESS OF PEDIATRICS, Montevideo, Uruguay, Dec 5-8. Dr. Maria Luisa Saldien de Rodriguez, Avenida 18 de Julio, 1246, Montevideo, Uruguay, General Secretary.

PAN AMERICAN MEDICAL WOMEN'S ALLIANCE, Montevideo, Uruguay, Dec. 2-8. Dr. Elizabeth Mason Hohl, 1234 North Vermont Ave., Los Angeles 27, Calif., U. S. A., President.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 24-26, 1952. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery 4.

COLORADO:* *Examination.* Denver, Jan. 9-11. Final date for filing application is Dec. 10. Sec., Dr. Samuel H. Brown, 831 Republic Bldg., Denver 2.

DELAWARE: *Examination.* Dover, Jan. 8-10. *Endorsement.* Dover, Jan. 17. Sec., Dr. J. S. McDaniel, 229 South State St., Dover.

FLORIDA:* *Examination.* Jacksonville, Nov. 25-27. Sec., Dr. Homer L. Pearson, 701 DuPont Bldg., Miami.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Ex. Sec., Dr. John K. Battenfield, Agana.

HAWAII: *Examination.* Honolulu, Jan. 14-17. Final date for filing application is Dec. 14. Sec., I. L. Tilden, 1020 Kapiolani St., Honolulu.

IDAHO: Boise, Jan. 7-9. Sec., Mr. Armand L. Bird, 305 Sun Bldg., Boise.

INDIANA: Indianapolis, June 1952. Sec., Dr. Paul R. Tindall, 1138 K of P Bldg., Indianapolis 4.

IOWA:* *Examination.* Des Moines, Dec. 3-5. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: Topeka, Dec. 12-13. Sec., Dr. O. W. Davidson, 772 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, Dec. 11-13. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

LOUISIANA: New Orleans, Dec. 6-8. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MARYLAND: *Examination.* Baltimore, Dec. 11-14. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore.

MASSACHUSETTS: *Examination.* Boston, Jan. 15-18. Sec., Dr. Robert C. Cochrane, Room 37 State House, Boston.

MISSISSIPPI: *Reciprocity.* Jackson, December. *Examination.* Jackson, June. Asst. Sec., Dr. R. N. Whitfield, Old Capitol Bldg., Jackson.

MISSOURI: *Examination.* Jefferson City, Feb. 19-21. *Reciprocity.* Jefferson City, Feb. 11. Exec. Sec., Mr. John A. Hailey, Box 4, State Capitol Bldg., Jefferson City.

MONTANA: Helena, April 1. Sec., Dr. S. A. Cooney, 214 Power Block, Helena.

NORTH CAROLINA: *Endorsement.* Raleigh, Jan. 21. Sec., Dr. Joseph J. Combs, 419 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, Jan. 2-5. Sec., Dr. C. J. Glaspel, Grafton.

OKLAHOMA:* *Examination.* Oklahoma City, June 4-5. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON:* *Examination.* Portland, Jan. 3-5. *Reciprocity.* Portland, Jan. 11-12. Exec. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia, Jan 22-25. Acting Sec., Mrs. M. G. Steiner, 351 Education Bldg., Harrisburg.

PUERTO RICO: *Examination.* San Juan, March 4. Sec., Mr. Luis Cueto Coll, Box 3717, Santurce.

SOUTH DAKOTA:* *Examination.* Sioux Falls, Jan. 15-16. Ex. Sec., Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

TEXAS:* *Examination.* Houston, Dec. 3-5. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth.

VIRGINIA: *Examination.* Richmond, Dec. 6-8. Final date for filing application is Nov. 24. Sec., Dr. K. D. Graves, 631 First St., S.W., Roanoke.

WEST VIRGINIA: *Examination.* Charleston, Jan. 7-9. Sec., Dr. N. H. Dyer, Capitol Bldg., Charleston 5.

WISCONSIN:* Madison, Jan. 8-10. Sec., Dr. A. C. Koehler, River Falls.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: *Examination.* On application, Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

COLORADO: *Examination.* Denver, Dec. 5-6. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver.

MINNESOTA: *Examination.* Minneapolis, Jan. 8-9. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, University of Minnesota, Minneapolis.

NEW MEXICO: *Examination.* Santa Fe, Dec. 16. Sec., Mrs. Marguerite Cantrell, Box 1592, Santa Fe.

OKLAHOMA: *Examination.* Oklahoma, April 14. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, Dec. 1. Sec., Dr. Charles D. Byrne, State Board of Higher Education, University of Oregon, Eugene.

SOUTH DAKOTA: *Examination.* Vermillion, Dec. 7-8. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

TENNESSEE: *Examination.* Memphis, Dec. 27-28. Sec., Dr. O. W. Hyman, 864 Union Ave., Memphis.

WISCONSIN: *Examination.* Milwaukee, Dec. 1. Madison, April 5. Sec., Mr. W. H. Barber, Ripon College, Ripon.

* Basic Science Certificate required.

DEATHS

Worcester, Alfred, Waltham, Mass.; born in Waltham, Mass., June 22, 1855; Harvard Medical School, Boston, 1883; professor of hygiene at his alma mater from 1925 to 1935 when he became professor emeritus; deputy commissioner with the rank of major of the American Red Cross for Switzerland during World War I; past president of the Massachusetts Medical Society and Harvard Medical Alumni Association; member of the Boston Obstetrical Society; decorated Officer of the Order of Leopold II, conferred by King Albert of Belgium; trustee of the Massachusetts Hospital for Consumptives from 1897 to 1901 and founder of the Waltham Training School for Nurses; in 1920 chairman of the Massachusetts Commission on Maternity Benefits; author of "Nurses and Nursing," "Nurses for Our Neighbors," "Care of the Aged, Dying and the Dead," "Hygiene for Freshmen," and "Sex Hygiene: What to Teach and How to Teach It" and others; awarded the doctor of science degree by Tufts in 1931; died August 28, aged 96, of coronary occlusion.

Dixon, Robert Livingston, Caro, Mich.; born in Angola, Ind., May 22, 1877; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1910; served on the faculty of his alma mater; member of the American Medical Association and the American Psychiatric Association; specialist certified by the American Board of Psychiatry and Neurology; formerly secretary of the state board of health; past president of the National Association for the Study of Epilepsy; formerly superintendent of the Michigan Farm Colony for Epileptics at Wahjamega, Michigan Home and Training School at Lapeer, and the Caro State Hospital for Epileptics; member of the hospital commission of the Caro Community Hospital; charter member and honorary member of the Caro Rotary Club, of which he had been president; served as president, vice-president, and director of the State Savings Bank; at one time member of the township library commission; died in the University Hospital, Ann Arbor, September 24, aged 74, of coronary occlusion.

Wentworth, John Alexander, West Hartford, Conn.; born in Portland, Me., April 26, 1888; Harvard Medical School, Boston, 1913; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; member of the American Medical Association and the American Heart Association; served during World War I; consulting physician, Manchester (Conn.) Hospital, Institute of Living and Hartford hospitals in Hartford, New Britain (Conn.) General Hospital, William W. Backus Hospital in Norwich and Windham Community Memorial Hospital in Willimantic; died in Veterans Administration Hospital, Northampton, Mass., September 17, aged 63, of cerebral hemorrhage.

Cook, Robert Jay ⊕ New Haven, Conn.; Johns Hopkins University School of Medicine, Baltimore, 1913; member of the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; served during World War I; for many years associated with Yale University School of Medicine; formerly on the faculty of Harvard Medical School in Boston, where he was on the staff of Children's Hospital; attending orthopedic surgeon at Griffin Hospital in Derby, Grace-New Haven Community Hospital, and the Hospital of St. Raphael; died October 4, aged 64, of metastatic carcinoma of the liver.

Wyman, Hugh Evelyn ⊕ Columbia, S. C.; Medical College of the State of South Carolina, Charleston, 1925; specialist certified by the American Board of Urology; past president of the South Carolina Urological Association; member of the American Urological Association and the International College of Surgeons; visiting urologist to the Veterans Administration Hospital; on the staff of Columbia and Providence hospitals; consultant to the South Carolina State Hospital, Camden (S. C.) Hospital, and the Newberry County Hospital in Newberry; died in Highland, N. J., September 1, aged 50.

⊕ Indicates Fellow of the American Medical Association.

Carle, William Ross, Perry, Ohio; Ohio Medical University, Columbus, 1901; member of the American Medical Association; past president and vice-president of the Lake County Medical Society; for many years county coroner and mayor of Perry; served on the village council; died July 11, aged 77, of injuries received when his automobile was struck by a train.

Casey, Thomas H., Lebanon, Mo.; University of Tennessee Medical Department, Nashville, 1891; on the staffs of St. John's Hospital in Springfield and the Louise G. Wallace Hospital; for many years county physician; died September 27, aged 83, of coronary thrombosis.

Cavins, John Henry, Lexington, Ky.; Kentucky University Medical Department, Louisville, 1903; died recently, aged 85.

Chauvet, Frank ⊕ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1907; clinical associate professor of medicine, emeritus, at his alma mater; served on the staffs of Cook County and Garfield Park Community hospitals; died in Oak Park, October 3, aged 73.

Cleveland, Luella S., San Jose, Calif.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1893; died in Los Gatos, August 26, aged 84, of cerebral hemorrhage.

Cocuzza, Vincent ⊕ New York; Regia Universitá degli Studi di Palermo, Facoltà di Medicina e Chirurgia, Italy, 1904; on the staff of Columbus Hospital; died July 28, aged 72, of hypertensive heart disease.

Cole, Russel Erwin ⊕ Muncie, Ind.; Starling Medical College, Columbus, 1906; specialist certified by the American Board of Pathology; member of the College of American Pathologists and American Society of Clinical Pathologists; affiliated with Ball Memorial Hospital; died September 16, aged 72, of carcinoma of the liver.

Collins, Aubrey John ⊕ Boston; Tufts College Medical School, Boston, 1902; member of the city health department for many years; died October 3, aged 76.

Comeau, Wilfrid Joseph ⊕ Bangor, Maine; Harvard Medical School, Boston, 1933; specialist certified by the American Board of Internal Medicine; certified by the National Board of Medical Examiners; fellow of the American College of Physicians; president of the Maine Heart Association; served during World War II; on the staff of Eastern Maine General Hospital; consulting cardiologist at the Veterans Administration Center in Togus; died September 6, aged 44, of coronary thrombosis.

Conway, John Joseph, Mount Carmel, Pa.; Jefferson Medical College of Philadelphia, 1920; member of the American Medical Association; served during World War I; formerly affiliated with the Veterans Administration in Pottsville; died in the Veterans Administration Hospital, Wilkes-Barre, September 15, aged 55, of pneumonia.

Corcoran, Michael Patrick, Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1910; served on the staffs of the Fitzgerald Mercy Hospital in Darby, Misericordia Hospital and St. Joseph's Hospital, where he died recently, aged 63, of diabetes mellitus.

Corey, George Boaz, Brooklyn; Howard University College of Medicine, Washington, D. C., 1897; died September 28, aged 86.

Crocker, Harvey James, Essex, Mass.; Tufts College Medical School, Boston, 1942; member of the American Medical Association; served during World War II; school physician and physician to the board of health; interned at Beverly Hospital in Beverly; served a residency at the Eastern Maine General Hospital in Bangor and at the New England Center Hospital in Boston; died September 7, aged 34.

Cummins, Harvey Robert, Beverly Hills, Calif.; Emory University School of Medicine, 1934; served during World War II; died in Los Angeles September 18, aged 43, of coronary thrombosis.

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Freston, Thomas Edwin, New York; University and Bellevue Hospital Medical College, New York, 1911; member of the American Medical Association; affiliated with St. Vincent and St. Elizabeth's hospitals; died September 21, aged 65, of gastrointestinal hemorrhage.

Goehring, William Neeb ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1914; formerly inspector for the city bureau of infectious diseases; died recently, aged 65, of coronary occlusion.

Gordon, Lourdes Bernard, Oak Park, Ill.; St. Louis University School of Medicine, 1931; member of the American Medical Association; served during World War II; died October 17, aged 46, of hypertensive heart disease.

Gough, Albert Sidney, Los Angeles; College of Physicians and Surgeons of Los Angeles, 1915; died September 2, aged 67, of general arteriosclerosis.

Gullberg, Earl Arthur, Osceola, Neb.; Creighton University School of Medicine, Omaha, 1949; member of the American Medical Association; served during World War II; affiliated with St. Francis Hospital; died in St. Joseph Hospital, Omaha, July 15, aged 29, of aplastic anemia.

Markoff, Kopland Karl, Norwich, Conn.; University of Vermont College of Medicine, Burlington, 1919; member of the American Medical Association; served during World War I; past president of the New London County Medical Association; on the staff of the W. W. Backus Hospital, where he died September 9, aged 55, of leukemia.

Mason, Lester Ray ⊕ Muncie, Ind.; Indiana University School of Medicine, Indianapolis, 1925; member of the Industrial Medical Association; past president of the Muncie Academy of Medicine; died July 2, aged 62, of carcinoma of the gallbladder.

Mitskas, Theodore Victor Joseph ⊕ Trenton, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1930; served as school physician of Burlington County; affiliated with McKinley Memorial Hospital; died October 2, aged 45.

Nakaya, Fusataro, Chicago; University of Illinois College of Medicine, Chicago, 1916; affiliated with Peoples' Hospital and American Hospital, where he died October 21, aged 64, of myocardial infarction.

Northrop, Arthur Kimball Sr., ⊕ Detroit; Michigan College of Medicine and Surgery, Detroit, 1896; an Associate Fellow of the American Medical Association; served on the staffs of Providence Hospital and Mount Carmel Mercy Hospital, where he died July 26, aged 78, of heart failure.

Peden, Edgar Floyd, Portland, Tenn.; University of Nashville Medical Department, 1899; formerly mayor; died recently, aged 79, of heart attack.

Quattlebaum, James Tindal ⊕ Columbia, S. C.; Medical College of the State of South Carolina, Charleston, 1927; specialist certified by the American Board of Internal Medicine; member of the House of Delegates of the American Medical Association in 1941; served during World War II; for many years on the staff of Veterans Administration Facility; affiliated with Baptist Hospital and Columbia Hospital, where he died September 5, aged 49, of carcinoma of the lung.

Raifman, Herman Moses ⊕ Brooklyn; Creighton University School of Medicine, Omaha, 1938; served during World War II; affiliated with Coney Island and Kingston Avenue hospitals; died October 10, aged 39.

Revay, Apard, New York; Magyar Királyi Pázmány Petrus Tudományegyetem Orvosi Fakultasa, Budapest, Hungary, 1910; member of the American Medical Association; died in Ellenville July 10, aged 66, of myocardial infarction.

Reynolds, John Henry, Milwaukee; Fordham University School of Medicine, New York, 1916, member of the American Medical Association; affiliated with Milwaukee Children's Hospital; died in Wood July 1, aged 62, of coronary thrombosis.

Rich, William Tilton ⊕ Neodesha, Kan.; St. Louis University School of Medicine, 1932; past president of the Wilson County Medical Society; served during World War II; died in Wilson County Hospital September 15, aged 45.

Roberts, James Bray, Kansas, Ill.; University of Pennsylvania Department of Medicine, Philadelphia, 1902; died in Paris (Ill.) Hospital recently, aged 76, of acute myocardial infarction.

Rose, Homer Dewitt ⊕ Sonora, Calif.; College of Physicians and Surgeons, Los Angeles, 1914; an Associate Fellow of the American Medical Association; county physician; died September 26, aged 69, of coronary occlusion.

Rowe, Leonard Blake ⊕ Natick, Mass.; University of Vermont College of Medicine, Burlington, 1906; served during World War I; affiliated with Leonard Morse Hospital; for many years member of the board of health; died in Massachusetts General Hospital, Boston, September 19, aged 77, of carcinoma of the bladder.

Schofield, Nathan Norris, Marion, S. C.; Medical College of the State of South Carolina, Charleston, 1909; died in McLeod Infirmary, Florence, September 24, aged 67.

Shontz, Donald Delmont, Massillon, Ohio; Ohio State University College of Medicine, Columbus, 1925; past president of the Stark County Medical Society; died August 22, aged 54.

Simpson, Eugene Grant, Naperville, Ill.; Rush Medical College, Chicago, 1892; affiliated with Copley and St. Charles hospitals in Aurora; died recently, aged 85, of heart failure and gastric hemorrhage.

Stevenson, Charles Robert, Ebensburg, Pa.; University of Maryland School of Medicine, Baltimore, 1897; for many years on the staff of Adrian Hospital, Punxsutawney; died September 13, aged 76, of exfoliative dermatitis.

Stewart, Frank, New York; University of Illinois College of Medicine, Chicago, 1922; member of the American Medical Association; retired ship's surgeon with United States Lines; died in St. Vincent's Hospital September 5, aged 58, of cardiovascular disease.

Tastet, David Walker, Washington, D. C.; George Washington University School of Medicine, Washington, D. C., 1907; served in France during World War I; formerly associated with the Veterans Administration; died in Garfield Memorial Hospital September 8, aged 71, of coronary arteriosclerosis.

Thomas, Charles Alfred, Coffeyville, Kan.; Keokuk (Iowa) Medical College, College of Physicians and Surgeons, 1904; member of the American Medical Association; served with the Veterans Administration; died in the Veterans Administration Hospital September 11, aged 74, of lymphatic leukemia.

Timmons, Peter Joseph ⊕ Woodhull, Ill.; Loyola University School of Medicine, Chicago, 1931; served during World War II; on the staffs of Cottage and St. Mary's hospitals in Galesburg; died in Jacksonville September 3, aged 47, of coronary occlusion.

Tomlinson, George Milton, Philadelphia; Jefferson Medical College of Philadelphia, 1908; served on the staffs of Jefferson and Philadelphia General hospitals; died in Temple University Hospital October 2, aged 65, of arteriosclerotic heart disease and diabetes mellitus.

Weis, Joseph D. ⊕ New Orleans; Harvard Medical School, Boston, 1898; formerly professor of tropical and clinical medicine at Tulane University of Louisiana School of Medicine; on the staffs of Touro Infirmary and Charity Hospital; died recently, aged 79, of coronary occlusion and hypertension.

Whan, William T., Youngstown, Ohio; Cleveland Medical College, Homeopathic, 1897; died July 6, aged 91, of a fractured right hip and arteriosclerotic cardiovascular disease.

DIED WHILE IN MILITARY SERVICE

Lorinstein, Hyman I., Atlantic City, N. J.; Middlesex University School of Medicine, Waltham, Mass.; 1936; served during World War II; for many years chief resident of Shore Memorial Hospital in Somers Point; major, medical corps, U. S. Army Reserve; called to active duty at the start of the Korean hostilities; died in Valley Forge General Hospital, Phoenixville, Pa., September 4, aged 43, of pulmonary and myocardial infarction.

GOVERNMENT SERVICES

AIR FORCE

Symposium on Physics and Medicine of the Upper Atmosphere.—A four-day symposium on "The Physics and Medicine of the Upper Atmosphere" began Nov. 6 in San Antonio, Texas, sponsored by the Air Force School of Aviation Medicine and the Lovelace Foundation for Medical Education and Research of Albuquerque, N. Mex. The conference was attended by some 300 medical men, researchers, and aircraft engineers, who discussed the peculiar conditions met by aviators in the upper atmosphere. Among the speakers were Wernher von Braun, builder of the German V-2 rocket, who now advises the United States on its rocket program, Major Charles Yeager, test pilot who first broke through the sonic barrier with the XS-1 in 1947, and test pilot William B. Bridgeman, who has flown higher and faster than any other human being. Bridgeman recently climbed in a rocket-powered Douglas Skyrocket, an experimental craft, to more than 72,000 feet, after having dropped from the underside of a B-29 Superfort high over Muroc Dry Lake, California. In descending from this height, he made more than 1,200 miles an hour, which is twice the rate that sound travels at that height. Problems of extreme cold, extreme heat, lack of pressure, lack of oxygen, and cosmic radiation, among others, make the upper air more like a region on the moon than like one on the earth, according to a release from the Air Force School of Aviation Medicine, Randolph Field, Texas. To solve these problems for pilots calls for the combined efforts of scientists in the fields of physics, radiobiology, engineering, and medicine. This was the first time in aviation annals that scientists came together to exchange views and report on the work which they are doing in this field.

The papers and discussions at this meeting will be published in book form by the University of New Mexico Press.

DEPARTMENT OF DEFENSE

Drive for More Nurses and Women Specialists.—The Defense Department opened a nation-wide drive to recruit an additional 72,000 women for the armed forces, on Armistice Day, November 11. The Army's drive for more nurses is being conducted on the basis of a regional quota system set up and administered by state affiliates of the American Nurses' Association to ensure that civilian nursing service is not disrupted as more nurses enter the armed forces. Besides making heavy demands on Army nurses, the 95,000 men wounded in the Korean war have required many more women medical specialists—dietitians, physical therapists, and occupational therapists—in Army hospitals in the United States and overseas. In connection with their effort to add another 500 such specialists to the corps, WMSC officials have urged young women high school graduates to plan their college studies with a view to qualifying for a career in the women's medical specialist field.

Announcing the coordinated recruiting program to have 112,000 American women in uniform by June, the Deputy Secretary of Defense stressed that "equal recognition to WAC, WAVE, Women Marine, WAF, Army Nurse Corps, Air Force Nurse, Navy Nurse Corps, and Women Medical Specialist Corps of the Army and Air Force (dietitians, physical therapists and occupational therapists) will be provided to every extent possible."

The June recruiting goals for women in the armed forces include: Army—22,147; Navy—4,689; Marine Corps—750; and Air Force—43,906. The total number sought comprises 9,000 officers, including those required by Army Nurse Corps and Women's Medical Specialist Corps.

Responsibility for attaining the objectives of the program rests with the Defense Advisory Committee on Women in the Services. This group is made up of 49 women leaders in the fields of education, business, journalism, theater, medicine, civic activities, and many other phases of American life.

PUBLIC HEALTH SERVICE

Defense Against Biological Warfare.—A Sectional Research Program to aid in defense against biological warfare is being planned by the Microbiological Institute of the National Institutes of Health. The program will operate through the expansion of microbiological research and the strengthening of relations between research centers and official health agencies.

Twelve investigators in various parts of the United States, including six already cooperating in the Influenza Study Program, have been invited to work with other scientists in their vicinity in implementing the program. Associated with each of these laboratories will be from 5 to 10 nearby participating laboratories located in universities, state health departments, hospitals, or research institutions, selected to cover broad fields of interest in microbiology.

Participating laboratories may request support for their research activities from the National Institutes of Health. The directors of the coordinating laboratories will supply information to Public Health Service Regional Medical Directors, who will make this information available to the health officers of the states in their regions. The whole program will be coordinated in the National Microbiological Institute.

The Communicable Disease Center of the Public Health Service has a program to strengthen epidemiologic and laboratory services through state health departments and to train epidemiologists by the assignment of medical officers directly to certain state health departments and Public Health Service field stations. These officers will be on call to investigate outbreaks of disease in any state through the regular procedures of the Communicable Disease Center and the state health departments. Their investigations may be supported on request by such services as the participating laboratories of the Sectional Research Program are willing and able to provide.

More Courses in Radiological Health Training.—Five courses in radiological health training will be given at the Environmental Health Center, Public Health Service, 1014 Broadway, Cincinnati. Three of the courses will be in basic radiological health training and will be held during the following periods: Jan. 21-Feb. 1; March 10-21; and April 21-May 2. An intermediate course, which is an extension of the training provided by the basic course, will be given Feb. 4-15 and again May 5-16. The courses are offered as part of training in radiological health begun by the Public Health Service in 1950. There are no tuition or laboratory fees, but travel and living expenses must be arranged and paid for by the individual or his employer.

The two-week basic course covers basic theory of radiation and radiation-detecting instruments, the use and maintenance of instruments for measuring radiation, and preventive measures for protection against radiation hazards. The intermediate course is designed to train students in the operation, maintenance, and repair of radiation-detection devices used in monitoring of personnel, and monitoring of water, food, and other samples.

Professionally trained persons who are primarily concerned with radiological health problems in their respective areas are eligible to attend the basic course. Candidates should have a degree in medicine, engineering, physical science, or biological science, and have had experience in public health work. Deadline for applications is six weeks before the course opens.

Candidates for either of the courses should apply by preparing a letter which briefly outlines their education and experience. This letter should be accompanied by the appropriate recommendation of the candidate's superior. Health department personnel should be recommended by the health officer, and personnel of other organizations should be recommended by the division head of the sponsoring organization. Applications should be addressed to Chief, Radiological Health Training Section, Environmental Health Service, 1014 Broadway, Cincinnati 2.

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FOREIGN LETTERS

TURKEY

Terramycin Therapy.—Prof. Ekrem Şerif Egeli, of Istanbul University, and his assistant, Dr. Karabet Arman, have published the results obtained with terramycin in 18 patients with various respiratory diseases. Eight adult patients with acute lobar pneumonia were given an initial dose of 2 gm. of terramycin hydrochloride, followed by 1.5 gm. every three hours. The temperature became normal in four of these patients after 24 hours and in four patients after 48 hours; recovery was uneventful. A child 11 years old with primary atypical pneumonia of 15 days' duration was given 1 gm. of terramycin on admission and thereafter 0.5 gm. every five hours. After 24 hours the temperature was normal. There was no relapse, and complete recovery was obtained after nine days. In two patients, 26 and 30 years old, with bronchopneumonia, the temperature was normal after 48 hours. The patients recovered and were discharged after five days. A 48-year-old patient, who had a lung abscess of 12 days' duration, with gram-positive and gram-negative aerobic and anaerobic bacilli and cocci in the sputum, had been given 600,000 units of penicillin and 6 gm. of sulfonilamide without effect. After 17 days of terramycin therapy at the hospital clinic the patient's temperature became normal and expectoration ceased. X-ray examination indicated the disappearance of the cavity, and complete recovery was obtained. A man, 52, who had brucellosis, with an agglutination titer of 1/600 and a temperature of 102.2 F for 30 days, recovered at the hospital after nine days. He was given 87 gm. of terramycin. A 19-year-old youth had pannyelophthisis, high temperature, and hemorrhagic diathesis. The leukocytes numbered 18,000, erythrocytes, 2,920,000, thrombocytes, 19,000. The bone marrow showed reticular cells 14.3%, white series count 52.5, red series count 32.8, and plasma cells 1.0. Blood cultures were negative. On the fourth and fifth days of hospitalization the patient received 2,000,000 units of penicillin without effect. Then he was given 4 gm. of terramycin daily for 20 days. The temperature became normal, the blood returned to normal, and the patient recovered. One patient, seriously ill with typhoid, was given terramycin on the 14th day. Vomiting and diarrhea developed, and terramycin therapy was discontinued. Eight days later the patient died. Another patient with typhoid was given a daily dose of 2 gm. terramycin, starting on the 15th day. Recovery began on the ninth day, but it cannot be definitely attributed to terramycin therapy. Two children, 6 and 8, who had whooping cough, were given terramycin. In one case the therapy was begun on the 12th day, in the other on the 18th day. Both patients received a daily dose of 0.5 gm. After 24 hours whooping decreased one-third. One child recovered after five days, the other after seven days. Terramycin was administered by mouth only. The average daily dose given the children was 2 gm.; the average daily dose for adults was 5 gm. One patient showed intolerance to the drug.

Streptomycin Therapy in Pulmonary Tuberculosis.—Dr. Tevfik Ismail Gökce, director of the Istanbul-Heybeliada Tuberculosis Sanatorium, and his associate, Dr. Ihsan Dincer, reported on results of streptomycin therapy during 1950. Of the 161 patients, 96 were women and 65 were men. The daily dose of streptomycin was 0.5 to 1 gm. In collapse therapy and other interventions this dose proved satisfactory, and good results were also obtained when complications followed such interventions. Though patients with extensive exudative tuberculosis showed only moderate improvement, there was improvement in the general condition. Most patients with no lowering of temperature gave evidence of streptomycin resistance, but in most patients the temperature was lowered and there was general symptomatic improvement and steady gain of weight. In patients with empyema, parenteral or intrapleural streptomycin therapy had little effect. Good results were obtained with streptomycin as a prophylactic agent in 23 of 25 patients prior to unilateral and bilateral pneumothorax, in 1 patient prior to pneumonolysis, in 1 prior to cavernostomy, in 3 before thorocoplasty, and in 2 patients with pneumoperitoneum. It gave good results also in 8 of 10 patients with elevated temperature resulting from an exudate following pneumothorax, in 6 of 8 patients with long-standing hydrothorax and periodic elevation of temperature, in 4 of 9 patients with pyopneumothorax and exudate as a result of perforation. Marked improvement was noted in 9 of 11 patients with elevation of temperature and exudate following pneumonolysis, in 5 of 6 patients with continuous fever following extrapleural pneumothorax, in 8 of 10 patients with temperature elevation and general deterioration after thoracoplasty, and in 1 patient with cavernostomy. In one patient with recent infiltration and recent cavity, the infiltration regressed but the cavity remained. There was improvement in 12 of 28 patients with pulmonary tuberculosis and extensive exudative lesions and in 15 patients with pulmonary tuberculosis and elevation of temperature during the course of routine sanatorium treatment. Of three patients with pulmonary tuberculosis and hemorrhage, one showed marked improvement, and the others showed no effect. Eight of 10 patients with pulmonary tuberculosis complicated by tuberculosis of the larynx showed pronounced improvement and regained their voice, and 2 were partly improved. In one patient with pulmonary tuberculosis complicated by peritonitis the temperature became normal and the peritoneal fluid regressed after a daily dose of 0.25 gm. of streptomycin. In one patient with pulmonary tuberculosis complicated by pericarditis, general symptomatic improvement was noted; the pericardial fluid regressed and became normal. This patient received two injections of 0.50 gm. of streptomycin into the pericardium. In one patient with pulmonary tuberculosis complicated by tuberculosis of the intestines, streptomycin proved ineffective. In one patient with tuberculosis of the vertebrae the abscess regressed, and in one patient with osteitis the fistula closed. Of three patients with pulmonary tuberculosis complicated by meningitis there was temporary marked improvement in one patient followed after three months by relapse and death; the other two patients did not benefit from streptomycin therapy. In one patient, whose temperature regressed as a result of streptomycin therapy, streptomycin resistance later developed and paraaminosalicylic acid was given with good results.

Of the 161 patients with pulmonary tuberculosis and other organic complications, 114 patients derived great benefit from streptomycin therapy. The Heybeliada Sanatorium, situated on an island in the Marmara Sea, has 530 beds and is under the direction of the Ministry of Health and Social Assistance. Four-fifths of the beds are free, and there is a long waiting list.

Dr. Ziya Gun Foundation.—The late Dr. Ziya Gun, for 35 years professor of ophthalmology at Istanbul University, willed 75% of his property to the university. It was decided to establish a trachoma research institute to function in cooperation with the ministry of health and social assistance, which for more than 20 years has been engaged in trachoma control and prevention. The income from real estate properties, investments, and £200,000 in bank deposits is to be spent on trachoma research, aid to eye clinics, undergraduate and postgraduate study in ophthalmology abroad, and a money reward every year to the writer of the best thesis in ophthalmology.

Three-Year-Old Lithopedion.—In this unusual case, a laparotomy for extrauterine pregnancy was performed recently at the Adana maternity hospital on a farm woman with two living children. Three years ago, the patient had a pain in the abdomen, vomited, and fainted. The symptoms subsided, but from time to

The items in these letters are contributed by regular correspondents in the various foreign countries.

time the abdominal pain recurred. Then, a few months ago, the patient noticed something hard in the abdomen. At operation, a calcified fetus about 4 months old was found. This lithopedion is now in the hospital museum.

Blood Transfusion Centers.—The first blood transfusion center was opened in 1949 at the Ankara Gulhane Hospital of the Military Medical Academy. In May, 1951, Prof. Kazim Ismail Gurkan, dean of Istanbul University, inaugurated a second center at Djerrah Pasha Hospital, with an initial registration of 100 donors. The center is part of the university's first surgical department. A blood bank has not yet been established in Turkey; hospitals and first aid stations rely on their own registered donors. The ministry of health and social assistance has prepared a bill for the establishment of a blood bank and transfusion center in Ankara that will supply the needs of the whole country. It is estimated that a budget of £3,000,000 will be required.

Emergency Hospital in Istanbul.—Prof. Ekrem Hayri Ustundag, minister of health and social assistance, recently opened the 50-bed emergency hospital established by the Istanbul municipality and maintained by the ministry. Because of the great increase in traffic accidents and overcrowding of municipal hospitals, the establishment of an emergency hospital became urgent. The hospital, which has its own blood transfusion center, is under the administration of the ministry of health and social assistance.

AUSTRALIA

Rubella and Congenital Cataract.—Dr. Norman Gregg, of Sydney, Australia, has been awarded the Mickle Prize of the University of Toronto for outstanding work in "world medical research." At the third annual meeting of the Australian Ophthalmological Society (British Medical Association) in Melbourne in October, 1941, Dr. Gregg reported a series of cases in which congenital cataract occurred in babies whose mothers had had rubella during the early stages of pregnancy.

Early in 1941 Dr. Gregg, who is honorary ophthalmic surgeon to the Royal Alexandra Hospital for Children, Sydney, noted among babies brought to that institution for treatment a number with cataract. The babies were of small size and ill nourished; they were generally difficult to feed. The cataracts were generally, but not always, bilateral and had almost invariably been present since birth as dense white opacities completely occupying the pupillary area. Dr. Gregg, in seeking the cause of the condition, was struck by the fact that in every instance the mother, either during the early days of her pregnancy or just before it, had had rubella. He then wrote to ophthalmologists in Sydney and in centers in other states telling them of his observations. As a result of this inquiry 78 cases of this unusual sequence of events have been discovered; 13 were in Dr. Gregg's own series.

Dr. Gregg also found that half the babies presented evidence of a congenital cardiac malformation. To further investigate this relationship, the National Health and Medical Research Council subsidized an investigation by Dr. Charles Swan and co-workers from the Institute of Medical and Veterinary Science, Adelaide, South Australia. The report of this inquiry (*Medical Journal of Australia*, Sept. 11, 1943, p. 201) not only confirmed the observation of Dr. Swan, but extended the congenital defects so caused to deaf-mutism, microcephaly, and mental retardation. With two exceptions, 31 of the mothers with congenitally defective children had contracted rubella within the first three months of pregnancy. No congenitally defective babies were born subsequent to the occurrence of measles in pregnancy.

In 1948, when it was found that gamma globulin from the serum of recently convalescent rubella patients would protect the expectant mother from the development of rubella if exposed, an epidemic of rubella among healthy adults at the Flinders Naval Depot, Victoria, provided a valuable source of material.

Subsequently, the Walter and Eliza Hall Institute of Research in Melbourne advised all adolescent girls to be infected by intranasal spray of frozen rubella virus available from the Commonwealth Serum Laboratories, Melbourne. Seven to 10 days after infection, 1 cc. of gamma globulin is recommended to minimize the attack.

COLOMBIA

Sulfones and Pyridoxine in Treatment of Leprosy.—In 1948 Dr. Arturo O'Byrne, head of the dermatology clinic of Cali, used pyridoxine to control vomiting of pregnancy in a leprous woman. The treatment not only controlled vomiting but also greatly improved the cutaneous lesions, which had remained unchanged during daily treatment with glucosulfone (promin®) sodium. The author reports good results with this combined therapy in 17 leprous patients (*Heraldo Medico* **9**:155 [June] 1951). At last examination bacteria could not be demonstrated in six of the 17 patients. Pyridoxine was given intravenously either every morning or every other morning, in an average dose of 50 mg. Glucosulfone sodium was given intravenously in the afternoon, on the same days. The initial dose was 1 gm. The dose of the drug was progressively increased from 1 gm. to 5 gm. per day. Two patients showed initially symptoms of gastric intolerance after administration of sulfoxone (diasone®) sodium. The author believes that the combined treatment should be given to persons with leprosy throughout the country, to determine its actual therapeutic value and to find out whether pyridoxine has definite effects on sulfones as a coadjuvant of these substances or whether it acts as a catalyzer of sulfur, with action similar to that of vitamin D on the metabolism of calcium.

Report on Public Health Work.—On July 23, Dr. Alonso Carvajal Peralta, Minister of Public Health, summarized in a radio address the work performed by the Ministry during the last year. He said that rural medicine is a function of the department of public health and that all persons who want to obtain a medical or dental diploma should give a year of service to rural medicine or to antituberculosis or antileprosy clinics. The campaigns against venereal diseases, for immunization, for control of epidemics, and for epidemiologic research are functions of the institutes of social hygiene. A total of 936,393 vaccinations were given in all parts of the country. Every region of the country has at present a portable unit for dental hygiene. The various hospitals and homes for the aged and for children have a total of 33,433 beds for the present Colombian population of 11,259,730. The budget assigned this year for public help exceeded two million Colombian pesos. The department of hygiene for mothers and children recently trained 1,000 nurses and assistant nurses. There are 97 centers with prenatal clinics in the country and, also, clinics for the care of infants and children. There are also 300 health units staffed by medical students who are giving their year of service in rural medicine. There are 28 centers for distribution of milk to infants and children, 15 nurseries, and 4 kindergartens. The National Institute of Nutrition, with headquarters in Bogotá, carries on campaigns for improvement of nutrition of children, with organization of restaurants for children of school age and research on the nutritional value of food given to children in the various regions of the country and measures to improve food. During the last 12 months, 21,642,500 kg. of salt was iodized to prevent occurrence of simple goiter in endemic regions. In the campaign against leprosy and for measures for leper isolation, a total of 4,863,500 Colombian pesos a year are used. In antituberculosis work, 25 dispensaries care for 11,083 ambulatory patients and 2,019 tuberculous patients in special hospitals. Good results from antituberculosis vaccinations have been obtained with vaccines prepared by the BCG Laboratory of Bogotá. A campaign against yaws was conducted on the Pacific coast. A follow-up study showed improvement in 96% of the patients treated. The campaign against yellow fever included production of vaccines in the Carlos Finlay Institute of Special Studies. The Minister mentioned also the antimalaria work in the malarial zones and the recent international agreements for prevention of malaria.

Personals.—Prof. Jean Marcel Lemoine, of the department of pneumonology and bronchoscopy of the Cochin Hospital of Paris, recently visited several Latin American countries. He was in Bogotá from August 1 to August 15, during which he gave lectures and clinical demonstrations at the Santa Clara National Hospital. Dr. Lemoine, a well-known bronchoscopist, is a member of the French antituberculosis society and of the American College of Chest Physicians. He is general secretary of the International Association for the Study of the Bronchi and also a member of the Colombian Society of Phthisiology.

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CORRESPONDENCE

DELAYED "RECURRENCE" OF BREAST CARCINOMA

To the Editor:—In the Sept. 29, 1951 issue of THE JOURNAL (p. 379) appeared a brief note entitled "Resistance to Cancer," in which an excerpt was quoted from a paper by R. W. Scarff ("The Present Status of the Cancer Problem," *The Practitioner*, July, 1951). In this item, the statement was made that in the case of a delayed recurrence of breast carcinoma, where after the removal of a primary tumor another tumor appears in the scar after 20 years, "it seems unlikely that this can be a second tumor arising in the breast tissue and one must accept the fact that cells have remained in situ but have been kept in check."

Such an assumption is not necessary, however, and, in fact, would not be consistent with our present approach to the problem of mammary carcinoma, based on current experimental data obtained on mice. According to our present knowledge on the etiology of breast cancer in mice, mammary carcinoma is caused by a transmissible agent which is ingested by newborn animals with the milk of their mothers (Bitner, J. J.: *Science* **84**:162, 1936; *J. Nat. Cancer Inst.* **1**:155, 1940). The animals that ingested the tumor agent remain, at first at least, in perfect health; they grow up, and do not show any symptoms of tumors even though they carry in their breast glands the inactive tumor agent. After middle age, however, for obscure reasons, the agent may become activated. The activation is a purely local phenomenon; the activated agent causes rapid multiplication of cells, causing the development of a malignant tumor at the site of activation. If such a tumor is removed by surgery, the result is that the host, after the operation, still continues to carry the inactive tumor agent in apparently normal tissues, particularly in the remaining breast glands. If at a later date the agent again becomes activated, either close to the original site of the primary tumor or in another breast gland, a new tumor may arise at the site of the new activation (The "Vertical" Transmission of Cancer, editorial, *J. A. M. A.* **141**:202 [Sept. 17] 1949).

It is possible to assume that in humans a corresponding phenomenon may also take place, should human breast cancer be caused by factors similar to those responsible for the development of mammary carcinoma in mice (Gross, L.: *Surg., Gynec. & Obst.* **88**:295, 1949).

It goes without saying that if, during the surgical procedure in which the primary mammary carcinoma was removed, some of the tumor cells remained in situ, they may give rise to a true recurrence of the initial tumor, developing at the site of the operation; such a recurrence, however, would follow the operation within several months. A delayed development of a new tumor, occurring several years after the operation, would more likely result from a new activation of the hitherto latent tumor agent.

LUDWIK GROSS, M.D.
Veterans Administration Hospital
130 W. Kingsbridge Rd., Bronx 68.

AURICULAR FLUTTER AND FIBRILLATION

To the Editor:—In his letter to the Editor which appeared in THE JOURNAL of Oct. 6, 1951, Dr. Ernest B. Zeisler has advanced arguments supporting the circus movement theory of auricular fibrillation. Dr. Zeisler states that "in auricular flutter there is an underlying circus movement" and suggests that, since auricular flutter and auricular fibrillation sometimes "merge into each other," there may also be a circus movement in auricular fibrillation. In an article published in the *American Journal of Medicine* for October, 1951, evidence is presented that neither a main circular wave nor daughter waves exist in auricular flutter.

Dr. Zeisler reasons further that in auricular fibrillation the chaotic activity may be largely the result of daughter waves arising from the main irregular circus pathway. In oscilloscopic studies of auricular fibrillation, no evidence suggesting the presence of either a main circus wave or daughter waves could be obtained from an analysis of the large waves derived from two auricular leads placed in many different positions. Nor could others, including Lewis himself, demonstrate the presence of a main circus pathway in auricular fibrillation.

Thus, it does not seem justifiable to assume that daughter waves are responsible for the chaotic auricular activity, when the existence of a main circus wave from which they are supposed to arise has not been established.

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Institute for Medical Research
Cedars of Lebanon Hospital
Los Angeles 27.

"KREBIOZEN"

To the Editor:—At the Oct. 12, 1951, meeting of the Committee on Cancer Diagnosis and Therapy, the following opinion regarding "krebiozen" was formulated:

The Committee on Cancer Diagnosis and Therapy has reviewed available data on the effects of a secret preparation called "krebiozen" in the treatment of a large number of cases of cancer. The preparation was used as directed in the original publication of Drs. Durovic and Ivy. The Committee finds no evidence of any curative effect, and no proof of palliative effect attributable to the "drug" itself.

This opinion is based on examination of (*a*) the original booklet presented by the head of the Department of Clinical Science of the University of Illinois in March, 1951; (*b*) a summary of 63 cases reviewed by the staff of the Committee; and (*c*) an analysis of 100 cases prepared by a study committee of the American Medical Association, which 100 cases include some of those referred to under (*b*).

M. C. WINTERNITZ, M.D., Chairman
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LICENSURE IN NEW YORK STATE

To the Editor:—It has just been brought to my attention that in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION of May 26, 1951, on page 357, it is stated that New York is one of nine states accepting the examination of the Armed Forces for licensure. That is not true. Our Medical Practice Act does not permit us to accept such an examination.

JACOB L. LOCHNER JR., M.D., Secretary
New York State Board of Medical Examiners
23 S. Pearl St., Albany 7, N. Y.

SANTA MONICA HOSPITAL ROENTGEN EXAMINATIONS

To the Editor:—In THE JOURNAL, Sept. 29, 1951, the Santa Monica Hospital is listed for 2,065 procedures, which should read 20,655, the number of x-ray examinations made last year.

RICHARD L. SMITH, M.D.
Santa Monica Hospital
Santa Monica, Calif.

INPATIENTS

To the Editor:—In THE JOURNAL of Sept. 29, 1951, page 421, the figure stated regarding the number of inpatients treated is incorrect. It should read 15,614.

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Cook County Hospital, Chicago.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Hospitals for Profit: Liability for Inaction of Special Nurse.—The plaintiff filed a suit for damages alleged to have resulted from the failure of the defendant hospital to install sideboards on a hospital bed after an order had been given therefor by a hospital doctor. The plaintiff applied for an order to set aside a verdict in favor of the hospital which application was heard by the supreme court, trial term, New York County, New York.

It appeared that the members of the family of the deceased person specifically requested the hospital, through its agents, to install bed sideboards and that both the hospital servants and a special nurse failed to make the installation. The question presented by this application, said the court, was whether or not a hospital is liable for an injury sustained and attributable to its failure to install bed sideboards after an order has been given therefor by a hospital doctor. The installation of bed sideboards is an administrative act of a hospital and the hospital would be without liability only if the failure of performance by a special nurse absolved the hospital absolutely and without further inquiry into any other factor or circumstance. The defendant failed to furnish any authority sustaining the contention that it was the exclusive function of the special nurse to make the installation. Failure of performance and negligent performance must be distinguished. An act tortiously done by a special nurse producing injury would absolve the hospital. Such immunity would arise whether medical care or administrative function is involved. Can it be said in the present state of the law that a failure of performance on the part of a special nurse, in this particular instance, in the administrative area, absolves the hospital if it too failed to act? While, as defendant argues, the tortious act of a special nurse does not create liability on the part of the hospital, it does not follow that her inaction administratively absolves the hospital. The administrative function to supply a proper bed for the patient's occupancy in pursuance of the doctor's orders is, in the first instance, and remains the nondelegable duty of the hospital whose facilities are engaged.

Accordingly, the plaintiff's application to set aside the jury verdict was granted and the case was returned to the trial calendar.—*Pivar v. Manhattan General, Inc., 104 N.Y.S. (2d) 575 (New York, 1951).*

Income Taxes: Kickbacks, as "Ordinary and Necessary" Business Expense.—The Commissioner of Internal Revenue refused to allow the petitioners to deduct the payment of kickbacks to physicians as "ordinary and necessary" business expenses under the income tax law. The action of the Commissioner was upheld by the tax court so the petitioners appealed to the United States court of appeals, fourth circuit.

The petitioners were engaged in the business of grinding, fitting and selling eye glasses and spectacles. They entered into oral contracts with various oculists whereby petitioners agreed to pay the oculists one-third of the retail price of all eye glasses and spectacles purchased by patients sent to them by the oculists. The evidence shows that the oculists did not regularly inform their patients of this rebate arrangement but such a disclosure was made only when it was specificially requested by individual patients. The sole issue in this case, said the court, is whether these rebates paid by taxpayers to the doctors were deductible as "ordinary and necessary" business expenses.

We feel, said the court of appeals, that the answer to this must be in the negative. No deduction should be allowed as "ordinary and necessary" which violates sharply defined public policy. A doctor owes the duty of undivided loyalty to his patients and a contract which violates this duty is unenforceable and opposed to public policy. One cannot at the same time serve two incompatible masters. The evil we find in these kickbacks, the court continued, is the receipt by the physician of secret profits through dealings with his patients. Surely, the doctor is assuming an utterly inconsistent position when he recommends an optician without disclosing that he is being paid for the recommendation. This corrupt practice obviously involves, or tends to promote, serious evils: (1) the prescription of glasses when not actually necessary; (2) more expensive lenses than really needed; (3) recommendation of an inferior optician; (4) artificial increase in the cost of glasses by the inclusion of the physician's commission, for which the physician affords no value to the patient. The bait of the secret consideration, which taxpayers offered to the doctor, hopelessly divides the trust interest of the doctor. At least two states have thought this practice so insidious as to pass legislation forbidding it. We hold, concluded the court, since these kickbacks corrupt the fiduciary relationship between physician and patient and result in a violation of the duty of loyalty, they are opposed to public policy and, therefore, are not deductible as "ordinary and necessary" business expenses by these taxpayers.

That these deductions are opposed to public policy, the court continued, is further borne out by the standards set by the medical profession itself. We find among the "Principles of Medical Ethics" of the American Medical Association (1943 Edition) the following: "It is unprofessional to accept rebates on prescriptions or appliances or perquisites from attendants who aid in the care of patients." "When a patient is referred by one physician to another for consultation or treatment, whether the physician in charge accompanies the patient or not, it is unethical to give or to receive a commission by whatever term it may be called or under any guise or pretext whatsoever." The record and opinion of the tax court also show that these kickbacks have been condemned by the Medical Society of North Carolina—the State in which these taxpayers were chiefly engaged in business. Accordingly the decision of the tax court against the petitioner was affirmed.—*Lilly et al, v. Commissioner of Internal Revenue, 188 F (2d) 269 (1951).*

MEDICAL MOTION PICTURES

NEW FILM ADDED TO A. M. A. LIBRARY

Introduction to Aphasia: 16 mm., color, sound, showing time 31 minutes. Prepared by the Department of Medicine and Surgery, Veterans Administration, J. M. Nielsen, M.D., Technical Advisor. Produced in 1950 by Churchill-Wexler Film Productions, Los Angeles. Procurable on loan (service charge $3) from Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn St., Chicago 10.

This film is admirably designed to explain a complex subject in terms understandable by those who are beginning to study aphasia. It presents an over-all definition of aphasia and implements this definition by animated diagrams of the neuroanatomy involved and a demonstration of an actual case. It explains all the various forms of aphasia, again using the diagrams of critical neuroanatomy and illustrating actual cases typical of each type. Ingenuity and remarkable skill are exhibited in the pictorial presentation of a very abstract and difficult subject. The function of speech and its understanding, as well as its outward manifestations, are grouped together to make a complete series of ideas. Most persons believe that a person with aphasia simply cannot express himself, but few understand the component parts of this lack of expression.

In the film, these parts are isolated from one another and demonstrated as parts, each of which produces a certain type of inability to use words, either in producing or in understanding them. It is true that lesions of these component parts by themselves are extremely rare; nevertheless, it is important for all those who wish to understand the neurologic defects to know what the component parts may be. The conception of aphasia presented in the film is, of course, that of the author and is accepted by many neurologists, although there might be many differences of opinion in detail.

The film is highly recommended for psychologists, neurologists, general practitioners, medical students, and speech therapists. It will also be of interest to otologists, physical therapists, occupational therapists, and nurses. This is an outstanding example of a good medical film production. It is well organized into logical sequences, and the photography, animation, and narration are excellent.

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A.M.A. Am. Journal Diseases Child., Chicago

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Place and Value of Summer Camps in Management of Juvenile Diabetes: Observations and Report of Activities at Camp for Diabetic Boys in 1950. J. W. Stephens and A. Marble.—p. 259.
Relationship of EEG Findings to Clinical Factors During and After Acute Purulent Meningitis. J. G. Hughes, B. C. Davis and A. E. Carpenter.—p. 268.
Experimental Nutritional Megaloblastic Anemia: Relation of Ascorbic Acid and Pteroylglutamic Acid: I. Nutritional Data and Manifestations of Animals. C. D. May, R. D. Sundberg, F. Schaar and others.—p. 282.
Acute Erythroblastopenia in Sickle-Cell Anemia and Infectious Mononucleosis. A. I. Chernoff and A. M. Josephson.—p. 310.
Methyltestosterone Treatment of Premature Infants. W. A. Reilly and A. M. Earle.—p. 323.
Neuroblastoma: Review of Literature and Report of Six-Year Cure by Roentgen Therapy. S. M. Beck Jr. and P. J. Howard.—p. 325.
Congenital Microcolon. C. F. Storey and R. W. Sharp.—p. 345.

A.M.A. Arch. Dermat. and Syphilol., Chicago

64:255-384 (Sept.) 1951

Is Mycosis Fungoides a Reticuloendothelial Neoplastic Entity? E. P. Cawley, A. C. Curtis and J. E. K. Leach.—p. 255.
Rise and Growth of Dermatology in New York. P. E. Bechet.—p. 273.
Ferdinand von Hebra: In Commemoration of His Appointment 100 Years Ago as Professor of Dermatology at University of Vienna. E. Spitzer.—p. 282.
Treatment of Granuloma Inguinale, Lymphogranuloma Venereum, Chancroid, and Gonorrhea. H. M. Robinson Jr.—p. 284.
Clinical Studies in Percutaneous Absorption. M. V. Nadkarni, D. B. Meyers, R. G. Carney and L. C. Zopf.—p. 294.
Keratosis Punctata Palmaris et Plantaris. M. J. Scott, M. J. Costello and S. Simuangco.—p. 301.
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Lichen Simplex Chronicus and Its Variants: Discussion of Certain Psychodynamic Mechanisms and Clinical and Histopathologic Correlations. B. Shaffer and H. Beerman.—p. 340.
*Primary Involvement of Upper Extremities in Thromboangiitis Obliterans. E. M. Farber and M. H. McLain.—p. 352.
Fixed Drug Eruption from Aureomycin: Report of Two Cases. A. L. Welsh and L. C. Goldberg.—p. 356.

Involvement of the Upper Extremities in Thromboangiitis Obliterans.—In typical cases of thromboangiitis obliterans, 40% of the patients have arterial disease of the upper extremities in association with occlusive arterial disease of the lower extremities. It is unusual for the disease to develop in the hands clinically before there are symptoms referable to the legs. Farber and McLain recently observed two patients in whom thromboangiitis obliterans (Buerger's disease) was limited to the upper extremity. In both patients painful ischemic ulcers of the finger tips developed. The lesions became infected and were treated as pyoderma until the vascular disease was recognized. A bilateral upper thoracic sympathectomy was done in one. This was followed by progressive improvement and healing of the digital ulcer. The authors stress that early recognition of this disease as a cause of ulceration of the fingers is important, because early treatment may prevent the loss of a finger or a limb.

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An asterisk (*) before a title indicates that the article is abstracted.

American Journal of Obstetrics & Gynecology, St. Louis

62:241-476 (Aug.) 1951. **Partial Index**

Unification of Obstetrics and Gynecology as Specialty: Presidential Address. L. A. Wilson.—p. 241.
*Initiation of Toxemia During Labor. R. A. Bartholomew, E. D. Colvin, W. H. Grimes and others.—p. 246.
Genital Cytology in Obstetric and Gynecologic Patients: Four-Year Study. W. K. Cuyler, L. A. Kaufmann, B. Carter and others.—p. 262.
Roentgenpelvimetric Measurements of 3,604 Female Pelves, White, Negro, and Mexican, Compared with Direct Measurements of Todd Anatomic Collection. R. Torpin.—p. 279.
Sarcoma of Uterus, Clinical Study. W. N. Thornton Jr. and J. P. Carter.—p. 294.
Diagnosis and Management of Abdominal Pregnancy: With Review of 19 Cases. J. B. Cross, W. M. Lester and J. R. McCain.—p. 303.
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Rupture of Gravid Uterus. J. C. Parker and G. R. Jones.—p. 330.
Emotional Reactions to Pregnancy. J. Parks.—p. 339.
Trophoblastic Lesions of Lungs Following Benign Hydatid Mole. M. B. Savage.—p. 346.
Antepartum Phlebothrombosis and Thrombophlebitis. W. L. Davis.—p. 353.
Difficulties in Diagnosis of Early Cervical Cancer. C. D. Berry.—p. 359.
Postmenopausal Bleeding and Its Management: Ten-Year Hospital Survey. B. D. Jones Jr. and E. B. Cantor.—p. 365.
Anatomy of Urethra and Anterior Vaginal Wall. K. E. Krantz.—p. 374.
*Essential Hypertension with Superimposed Pre-Eclampsia. W. S. Jones.—p. 387.
Sarcoma of Uterus: Review of 16 Cases, 1939 to 1948. P. M. Murray and G. Weitzner.—p. 396.
Diagnostic Confusion of Ovarian Metastases from Endometrial Carcinoma with Primary Ovarian Carcinoma. W. F. Finn.—p. 403.

Toxemia During Labor.—This investigation on 500 cases was prompted by the observation that placentas occasionally had a raised, dark area on the maternal surface, typical of the early infarction of acute toxemia, although the patient had been free of toxemia and proteinuria up to admission early in labor. The authors conclude that toxemia is initiated with greater frequency during labor than at any other time during pregnancy. Proteinuria, absent early in labor in 275 consecutive cases, was found to be 1+ at delivery in 41.8% and 2+ to 4+ in 10.7%. Early localized infarction and beginning necrosis were found in 24 placentas. Proteinuria, from 1+ to 4+, developed during labor in 19 of the 24 cases. In five cases, necrosis was recognizable, but had occurred too early to have caused proteinuria. Ten patients showed no proteinuria on admission but showed 2+ to 4+ at delivery. The placentas of all 10 showed early infarction. The characteristic changes in early infarction are enlargement and crowding of the villi, reduction in intervillous spaces and circulation, distention and engorgement of the villous capillaries, and pyknosis and karyorrhexis of the chorionic epithelium. Proteinuria is always present if pyknosis and karyorrhexis are marked, but may be absent if they are slight. Placental infarction apparently has its inception in spasm of the sphincters of the placental veins, obstructing the outflow of fetal blood from the corresponding placental unit. Exposure of uterine muscles of guinea pigs to maternal and fetal blood serum indicated the presence of a spasmogenic or muscle-stimulating factor, presumably capable of inducing contractions of the sphincters in the placental veins. The frequency with which proteinuria and acute placental infarction develop during labor suggests that the initiator of uterine contractions and labor (presumably oxytocin) is also the initiator of spasm of the sphincters of the placental veins, setting up the sequence of events in the placenta that results in toxemia. Since withdrawal of estrogen and progestin has been shown to precede labor as well as toxemia and since estrogen is said to have a depressing or inhibitory effect on the pituitary, release from this effect may possibly account for both the initiation of labor and the greater frequency of toxemia during labor. Toxemia initiated during labor is usually of too short duration to cause clinical symptoms, but, if the toxemia was unrecognized before labor, it may cause late postpartum eclampsia.

Essential Hypertension with Superimposed Preeclampsia.—Of 244 hypertensive women who were observed at the Providence Lying-In Hospital over the 10 year period 1939-1948, when a total of 51,840 women were delivered, 203 had mild hypertension. There were 73 cases of superimposed preeclampsia in this group of 203, an incidence of 36%. The author discusses such factors as time of onset of preeclampsia, weight gain, separation of placenta, fetal loss, and maternal death. He considers it appropriate to recognize superimposed preeclampsia as an entity in the official classification of toxemia. Although he used the term benign or mild, with regard to hypertension, he feels that the term essential is more appropriate, because the condition is always serious in pregnancy. It is difficult to accept as "benign" any basic physiological complication of pregnancy that entails 14 times the normal expectancy of preeclampsia, 10 times the incidence to toxic separation of the placenta, 20 times the chance of cerebral hemorrhage or convulsive phenomena, one-third the hope of a live birth, and 35 times the normal risk of maternal death.

Annals of Internal Medicine, Lancaster, Pa.

35:307-498 (Aug.) 1951

Patient and Physician. J. Parkinson.—p. 307.
Allergy in Aged. R. A. Kern.—p. 315.
Nocturnal Disorders of Medical Interest. S. Vaisrub.—p. 323.
*Chloroquine in Hepatic Amebiasis. W. A. Sodeman, A. A. Doerner, E. M. Gordon and C. M. Gillikin.—p. 331.
*Elevated Serum Pancreatic Enzyme Values Without Primary Intrinsic Pancreatic Disease. E. C. Raffensperger.—p. 342.
Clinical Evaluation of Aurothioglycolanilide (Lauron-Endo) in Rheumatoid Arthritis. R. R. Merliss, B. Axelrod, J. Fineberg and M. Melnik.—p. 352.
What is Chronic Brucellosis? W. W. Spink.—p. 358.
Importance of Cervical Spine to Internist. A. I. Josey.—p. 375.
Prolonged Regulation of Alloxan Diabetes in Dogs. L. Bauman, J. L. R. Candela and T. Martino.—p. 391.
Nutritional Factors in Cardiac Disease. T. M. Durant.—p. 397.
Stellate Ganglion Block in Cerebrovascular Accidents. W. A. Nosik.—p. 409.
Recent Advances in Pulmonary Resection in Treatment of Tuberculosis. J. H. Forsee, C. W. Tempel and J. M. Salyer.—p. 417.
Military Psychiatry Today. F. J. Braceland.—p. 432.

Chloroquine in Hepatic Amebiasis.—Seven patients with hepatic amebiasis, two of them with an acute amebic liver abscess and two with a chronic amebic liver abscess, were treated with chloroquine diphosphate. Five patients received a primary dose of 1 gm. of the drug for two days, followed by 0.5 gm. daily for two or three weeks, the dose schedule recommended by Conan. The two patients with acute amebic hepatitis were given double this dosage. Results confirmed the effectiveness of chloroquine in hepatic amebiasis. Prompt recovery occurred in four patients. In three patients primary failure of the drug with subsequent success showed the importance of multiple factors in successful therapy and indicated that diagnosis by therapeutic trial with chloroquine may not be feasible, for failure to respond to chloroquine does not rule out amebic hepatic disease. As with emetine, negative therapeutic tests with chloroquine must be interpreted with caution. The dose schedule recommended by Conan seems generally satisfactory. If there is no response, the dose may be increased, as in two of the author's patients, before the drug is considered a failure, and even then, if there is no response, the drug may be observed to act later when other therapeutic procedures, such as drainage, are added. These procedures are at times determinants of the effectiveness of chloroquine, just as they are with emetine. No evidence of serious chloroquine toxicity was observed in the seven patients.

Elevated Serum Pancreatic Enzyme Values.—Appreciable elevations of serum pancreatic enzyme activity were observed in 21 patients without intrinsic pancreatic disease. Only one patient had a serum amylase determination of over 400 mg. per cent, and this was on the 12th day of peritonitis following a ruptured appendix. Of the 21 patients, 6 had elevation of serum amylase activity above 300 mg. per cent. The majority of elevated serum amylase determinations were between 200 and 300 mg. per cent. The highest serum lipase value recorded in the author's cases was 6.2 cc. This was obtained in a patient with pyloroduodenal ulcer with a subacute perforation into the liver. Six patients had elevated serum lipase values above 4 cc., while the majority of the elevations were between 1.5 cc. and 4 cc. Of the five patients with perforated peptic ulcers two had elevated serum amylase and lipase levels within the first 24 hours following the perforation, while in the others elevated serum pancreatic enzymes were determined only after 8 to 10 days. These cases proved that an elevation of serum pancreatic enzymes may occur in association with an acute perforated peptic ulcer, regardless of the site of the perforation. In the four cases of partial small bowel obstruction with elevated serum pancreatic enzymes, the height of the determination was first seen six to eight days following obstruction. The occurrence of such elevations in association with partial small bowel obstruction is of diagnostic importance in distinguishing between actual mechanical obstruction and the ileus that may be associated with acute pancreatitis. Elevated serum pancreatic enzyme values were observed in several patients with acute peritonitis of almost any etiology. These elevations were first seen from 5 to 10 days following the insult and were equally reflected in both serum pancreatic enzyme values. The values remained elevated for a longer time in this group than in any of the others. These elevations indicated that some cases of acute peritonitis may be associated with a degree of pancreatic insult and that this insult is reflected in the elevated serum pancreatic enzyme values for comparatively long periods even after the patient has become totally asymptomatic. The last 3 of the 21 patients had elevations of the serum enzymes in association with renal impairment. In none of the 21 patients was it possible to correlate the severity or the prognosis of the disease with the time, degree, or duration of elevation of the serum pancreatic enzyme values.

Archives of Pediatrics, New York

68:303-356 (July) 1951. Partial Index

*Acute Iron Poisoning: Report of Case and Review of Literature. J. W. Murphy, C. Neustein, A. C. Hoffman and others.—p. 303.
Iodine in Treatment of Poliomyelitis and Other Paralytic Diseases. R. R. Scobey.—p. 309.

Acute Iron Poisoning.—A 30-month-old child played with an envelope containing 0.2 gm. ferrous sulfate tablets and had probably ingested about 75 of them (15 gm.). This was equivalent to 1.28 gm. per kilogram of body weight. Four hours later the child began to vomit blood-tinged material. The vomiting recurred four or five times and was associated with the passage of two to three diarrheal stools. The stomach was lavaged with 1,500 cc. of isotonic sodium chloride solution. The initial returns were grossly bloody, but subsequent returns were clear. The child remained alert and playful throughout 11 days of hospitalization and showed no evidence of hepatic or renal injury. The authors review the literature on acute iron poisoning. They stress that this child survived a nearly fatal dose. In discussing therapeutic methods, they cite Thomson's recommendations, as follows: 1. Emesis may be successful in ridding the body of swallowed tablets up to one hour after ingestion. 2. Gastric lavage should be performed with an aqueous bicarbonate solution to convert the corrosive ferrous sulfate to the much less irritant ferrous carbonate and to dilute the poisonous substance. 3. Bismuth preparations should be administered orally in order to protect the gastric mucosa. Dimercaprol (BAL) seems to be contraindicated, since it may aggravate the effects of poisoning with iron.

Connecticut State Medical Journal, Hartford

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Psychiatry in Everyday Living: Teaching and Practice of Mental Hygiene. F. S. DuBois.—p. 799.
Intestinal Hemorrhage from Ulcer in Meckel's Diverticulum. J. J. McLean and J. Shoukimas.—p. 807.
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Neurinoma of Ethmoid. R. Dinoit.—p. 815.
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Georgia Medical Association Journal, Atlanta

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Iowa State Medical Society Journal, Des Moines

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Respiratory Difficulties in Newborn as Related to Otolaryngology. R. C. Carpenter.—p. 353.

Journal Clin. Endocrinology, Springfield, Ill.

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Effect of Intravenous Testosterone on Nitrogen and Electrolyte Metabolism. C. D. West, F. H. Tyler and H. Brown.—p. 833.

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Hormone Studies in Case of Adrenogenitalism Due to Neoplasm of Adrenal Cortex. C. W. Lloyd, J. Lobotsky, J. Jones and others.— —p. 857.

Effect of ACTH in Case of Cerebromacular Degeneration (Tay-Sachs Disease): Endocrinologic Study. L. Gitman, S. Brusilow and I. J. Greenblatt.—p. 866.

Acute and Chronic Adrenal Insufficiency in Patient Showing Polyglandular Deficiency and Acromegaly. P. M. Rummell, L. S. Baer, L. Hollister and F. Kolb.—p. 872.

Leydig (Sympathicotropic) Cell Tumor of Ovary: Report of Case with Virilism, Including Postmortem Findings. B. A. Sachs and D. Spiro. —p. 878.

Journal of Clinical Investigation, Cincinnati

30:793-896 (Aug.) 1951

Effects of Twenty Degree Head-Up Tilt upon Cerebral Circulation of Patients with Arterial Hypertension Before and After Sympathectomy. J. H. Hafkenschiel, C. W. Crumpton, H. A. Shenkin and others. —p. 793.

Studies of Serum Creatine Tolerance: I. Findings in Normal Males and in Hyperthyroidism. J. H. Peters, R. Schwartz, H. Mermelstein and others.—p. 799.

Occurrence of Diuresis in Humans in Stressful Situations and Its Possible Relation to Diuresis of Early Starvation. L. E. Hinkle Jr., C. J. Edwards and S. Wolf.—p. 809.

*Studies in Diabetes Mellitus: II. Occurrence of Diuresis in Diabetic Persons to Stressful Life Situations, with Experimental Observations on Its Relation to Concentration of Glucose in Blood and Urine. L. E. Hinkle Jr., C. J. Edwards and S. Wolf.—p. 818.

Use of Artificial Respiration in Pulmonary Emphysema Accompanied by High Carbon Dioxide Levels. H. J. Boutourline-Young and J. L. Whittenberger.—p. 838.

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"Water Diuresis" Produced During Recumbency by Intravenous Infusion of Isotonic Saline Solution. M. B. Strauss, R. K. Davis, J. D. Rosenbaum and E. C. Rossmeisl.—p. 862.

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Precipitable Iodine of Serum (SPI) in Disorders of Liver. D. M. Kydd and E. B. Man.—p. 874.

Pool Size, Turnover Rate, and Rapidity of Equilibration of Injected Isotopic Uric Acid in Normal and Pathological Subjects. C. Bishop, W. Garner and J. H. Talbott.—p. 879.

Effect of Benemid (P-[Di-N-Propylsulfamyl]-Benzoic Acid) on Uric Acid Metabolism in One Normal and One Gouty Subject. C. Bishop, R. Rand and J. H. Talbott.—p. 889.

Diuresis in Diabetics Exposed to Stress.—According to Hinkle and associates, there is increasing evidence suggesting that not all of the polyuria that occurs in diabetics can be attributed to an increase in the amount of glucose excreted. In observations on persons with diabetes mellitus of all grades of severity they repeatedly observed an increase in water and glucose excretion, sometimes associated with ketosis and coma, occurring in association with stressful life situations, and not attributable to infection, trauma, or changes in diet, insulin, or activity. A study on "stress diuresis" revealed the following facts: 1. In persons with diabetes mellitus, exposure to stressful life situations may lead to diuresis, which is characterized by a 200-500% increase in the rate of water excretion, accompanied by a rise in the excretion of chlorides and ketone bodies. 2. The stress diuresis occurring in aglycosuric diabetics is similar to that observed in the nondiabetic persons discussed in a previous paper. 3. When stress diuresis occurs in diabetics who are glycosuric, the rate of glucose excretion rises in parallel with the rate of water excretion, and there is no major change in the glucose concentration of the urine. 4. Stress diuresis is not dependent on osmotic changes associated with the excretion of glucose in the urine, or on changes in the concentration of glucose in the blood. 5. A stress diuresis may lead to a rapid loss of large amounts of water, glucose, and chlorides and may be an important factor in the development of acidosis and coma. 6. The ingestion of concentrated glucose solutions is well tolerated by diabetics in the absence of stress, but in stress situations such solutions may increase the loss of water and chlorides.

Journal Lab. and Clinical Medicine, St. Louis

38:167-330 (Aug.) 1951

Note on Tryptophane and Pellagrous Glossitis. W. B. Bean, M. Franklin and K. Daum.—p. 167.

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Experimental Production of Syndrome Resembling Toxemia of Pregnancy. G. M. C. Masson, A. C. Corcoran and I. H. Page.—p. 213.

Effect of Benemid (P-[Di-N-Propylsulfamyl]-Benzoic Acid) on Blood Levels of PAS. H. Janszen.—p. 227.

*Serum Concentrations of Chloramphenicol Following Intravenous and Intramuscular Administration. J. M. Burnell and W. M. M. Kirby. —p. 234.

Action of Synthetic Atropine Substitute in Normal Individuals. A. Wollum and H. M. Pollard.—p. 238.

Biochemical Studies on Leucocytes: II. Phosphatase Activity in Chronic Lymphatic Leucemia, Acute Leucemia, and Miscellaneous Hematologic Conditions. W. S. Beck and W. N. Valentine.—p. 245.

Observations on Characteristics of Unusual Circulating Anticoagulant. J. F. Mueller, O. Ratnoff and R. W. Heinle.—p. 254.

Cutaneous Absorption of Phenol. M. V. Freeman, J. H. Draize and E. Alvarez.—p. 262.

Serum Concentrations of Chloramphenicol.—Chloramphenicol levels of the serum were determined in 50 patients after the intravenous administration of a new parenteral preparation of chloramphenicol. After a single injection of 1 gm., serum concentrations averaged 20 γ per cubic centimeter at 1 hour, and gradually declined to an average of 2.4 γ per cubic centimeter at 24 hours. After 0.5 gm. was given intravenously, the serum concentrations fell from an average of 10 γ per cubic centimeter at 1 hour to 3.8 γ per cubic centimeter at 12 hours. When levels were compared after oral and intravenous administration, the serum concentrations were slightly higher with the intravenous route at 3 hours, but were twice as high at 12 hours, and persisted for a longer period than with the oral route. From the data obtained, it appears that when chloramphenicol is indicated, and oral administration is not feasible, 1 gm. given every 12 hours intravenously will provide effective therapy. The parenteral preparation was also well tolerated by the intramuscular route but did not give serum levels adequate for the therapy of most infections.

Kansas Medical Society Journal, Topeka

52:361-420 (Aug.) 1951

*Bone Marrow Biopsy as Aid in Diagnosis of Metastatic Malignancy. W. R. Durkee and S. J. Wilson.—p. 361.
Clinical Report on Relief of Headaches Non-Responsive to Analgesics. C. K. Shofstall and W. H. Shofstall.—p. 366.
Office Gynecology. J. H. Moore.—p. 368.
*Temporal Arteritis: Report of Case with ACTH Therapy. W. M. Tate and J. A. Wheeler.—p. 374.

Bone Marrow Biopsy in Metastatic Malignancies.—The possibility of recognizing tumor cells in bone marrow aspirated from the sternum was first studied in 1936 by Rohr and Hegglin, who found tumor cells in 11 of 75 patients with neoplastic disease. Subsequently, some other investigators studied this problem, but there have been few reports in the recent literature. This report is concerned with 11 instances of metastatic malignancy found on sternal bone marrow examinations at the hospital of the School of Medicine of the University of Kansas. Five of these aspirations were done because of unexplained anemia, and two were done because of destructive bone lesions. Four had both an anemia and bone destruction, but the marrow examinations were done primarily for diagnosis of the type of anemia. The malignant lesions diagnosed were as follows: carcinoma of the stomach in three cases, proved carcinoma of the breast in two, probable breast cancer in one, probable carcinoma of prostate or of lung in one each, and melanosarcoma in one. In two others the cancers could not be definitely located. The authors feel that bone marrow biopsy should be done whenever an unexplained anemia occurs in a patient of an age in which malignancy is likely to occur. A marrow biopsy should also be done in all instances in which there are destructive bone lesions and the diagnosis is in doubt. The destructive lesions in the bone in metastatic malignancy, as demonstrated by x-ray, often cannot be differentiated from those of multiple myeloma, and the marrow aspiration biopsy is one of several diagnostic aids. Although the bone marrow findings did not alter the prognosis in any of these cases, they did serve to make the clinical management of the cases more intelligent.

Corticotropin in Temporal Arteritis.—Formerly it was thought that temporal arteritis was a pathological process involving only the temporal vessels; however, most writers now feel that it is much more extensive, since at autopsy the process has been found to involve the retinal, subclavian, renal, carotid, coronary, femoral, occipital, brachial, and cerebral arteries. Tate and Wheeler feel that the term temporal arteritis is a misnomer but will suffice until a better one can be offered. The cause of temporal arteritis is not definitely known. Various treatments have been used, and procaine block of the nerves of the temporal vessels and severing of the vessels have proved most successful. The authors present the detailed history of a patient, who, after inadequate response to several other treatments, was treated with corticotropin (ACTH) in doses of 10 mg. every six hours. The relief was dramatic, but symptoms recurred when the dosage was reduced and subsided again when the original dosage was resumed. Later, however, the dosage could be reduced and for a few days completely interrupted. The total dose of corticotropin was 2,100 mg. The authors say that while cortisone has been used before in temporal arteritis, the case reported here seems to be the first in which corticotropin has been used.

New England Journal of Medicine, Boston

245:197-234 (Aug. 9) 1951

*Upper-Respiratory Infection as Factor Influencing Susceptibility to Poliomyelitis. T. H. Ingalls and W. L. Aycock.—p. 197.
Gastroscopic Biopsy in Differential Diagnosis of Gastritis and Carcinoma. E. B. Benedict.—p. 203.
Full-Term Abdominal Pregnancy: Case Report. D. B. Dorman.—p. 207.
Decline in Mortality in Acute Rheumatic Fever in New Haven, Connecticut, 1920-1948. R. W. Quinn and J. P. Quinn.—p. 211.
Plastic Surgery: Harelip and Cleft Palate, with Section on Speech Therapy. B. Cannon, D. Fisher and H. C. Britton.—p. 215.

Upper Respiratory Infection and Susceptibility to Poliomyelitis.—This report concerns a sudden outbreak of poliomyelitis that occurred at St. Mark's School in Southboro, Mass., in May 1936. Among 190 boys, poliomyelitis developed in 22 within two weeks. This outbreak is important in several respects: it occurred in the off-season of an off-year; it was sharply localized and was of explosive onset with a high attack rate; and it followed a higher incidence of spring respiratory infections than has been subsequently observed over a 10-year period. These facts suggest a combination of circumstances that favored dissemination of the virus and development of clinically manifest disease: a grouping of susceptibles, as proved by the high attack rate, and a relatively sudden and common exposure of five persons who thereafter served as reservoirs of infection. Even postulating that all 190 boys were infected, the number (13) showing paresis or paralysis gives an attack rate some 10 times greater than the lifetime rate for the general population—and this within a period of two weeks. Search was made for conditioning factors that may have increased the susceptibility of the group. The course of the outbreak shows a time relation to a wave of hospital admissions (62) for respiratory infections developing in April and the first half of May, 1936. During the period of May 1 through May 20, 41% of boys in whom poliomyelitis later developed had upper respiratory infections. The interval between onset of the two types of illness in 10 boys averaged nine and a half days. Five of these 10 exhibited signs of bulbar involvement. This seems to indicate that upper respiratory infection was one of multiple factors in an outbreak of poliomyelitis characterized by high frequency of clinical manifestations among the total number of boys who could have been infected with the virus of poliomyelitis. The authors feel that the hypothesis that naturally occurring infections may influence the development of the clinical manifestations of poliomyelitis is worthy of future epidemiological and experimental study.

New Jersey Medical Society Journal, Trenton

48:351-398 (Aug.) 1951

Treatment of Cardiac Emergencies with K-Strophanthoside and Lanatoside C. M. C. Ritota.—p. 354.
Use of Various Insulins with Special Reference to Timing. G. M. Knowels and J. J. Kristal.—p. 357.
Active Fields in Gynecologic Cancer. J. A. Corscaden.—p. 361.
Epidermoid Carcinoma of Anal Canal. J. Gerendasy.—p. 365.
Treatment of Trichomonas Vaginitis: Use of Improved Vaginal Cream. J. T. Cortese and J. Padovano.—p. 367.

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Pediatrics, Springfield, Ill.

8:163-308 (Aug.) 1951

Inconclusions of Studies, Mostly of Premature Infants. H. H. Gordon.—p. 163.
*Inhibition of Growth and Other Effects of ACTH in Premature Infants. W. A. Silverman, R. L. Day and F. C. Blodi.—p. 177.
Coarctation of Aorta as Cause of Death in Early Infancy. R. C. Bahn, J. E. Edwards and J. W. DuShane.—p. 192.
Mumps Meningoencephalitis: With Special Reference to Use of Complement-Fixation Test in Diagnosis. L. P. Kravis, M. M. Sigel and G. Henle.—p. 204.
Idiopathic Aplastic Anemia in Children: Its Early Differentiation from Aleukemic Leukemia by Bone Marrow Aspiration. P. Sturgeon.—p. 216.
Repeated Recovery of Spirillum by Blood Culture from Two Children with Prolonged and Recurrent Fevers. G. Shwartzman, A. L. Florman, M. H. Bass and others.—p. 227.
Poliomyelitis and Coxsackie Viruses in Paralytic Poliomyelitis. E. C. Curnen and J. L. Melnick.—p. 237.
*Treatment of Chronic Shigella Infection in Children with Oral Polymyxins. D. Lieberman and E. Jawetz.—p. 249.
Cor Pulmonale in Infancy and Early Childhood: Report on 34 Patients, with Special Reference to Occurrence of Pulmonary Heart Disease in Cystic Fibrosis of Pancreas. S. W. Royce.—p. 255.

Effects of Corticotropin in Premature Infants.—This report deals with the systemic rather than the ocular effects of corticotropin in 19 premature infants with retrolental fibroplasia. The drug was given in doses varying from 1.7 to 20 mg. per kilogram of body weight daily for 9 to 27 days. Five infants were given second courses of corticotropin. Infants who were given more than 5 mg. of corticotropin per kilogram of body weight daily became hyperirritable and ravenous. Many became pallid immediately after the injection of the drug. During treatment a severe hand infection caused by Staphylococcus aureus hemolyticus occurred in one infant and could be controlled with antibacterial therapy. The 24-hour urinary output of formaldehydogenic steroids of untreated premature infants increased directly with increased body weight. Following the administration of corticotropin, the 24-hour output of "corticosteroids"

increased rapidly and remained pronouncedly elevated during the course of therapy. Retardation of growth occurred during the administration of more than 5 mg. of corticotropin per kilogram of body weight per day. "Rebound" increase in growth took place when administration of corticotropin was stopped. Two infants died after completion of treatment with corticotropin. One death was attributed to pneumonia following fortuitous aspiration of food. The other occurred 24 hours after corticotropin therapy was stopped, on the third day of oral administration of cortisone, and for want of another explanation it must be presumed to be related to the use of these drugs. The death of these two infants emphasizes that when prolonged hyperadrenocorticism has been induced in a premature infant, the latter must be carefully observed for the possibility of a sudden change in his clinical condition.

Polymyxins in Chronic Shigella Infection.—Twenty-three children between 2 and 11 years were selected from three cottages in an institution for mentally defective children in which bacillary dysentery was known to be endemic. The selected children were either asymptomatic carriers of Shigella or were suffering from chronic relapsing infections with S. paradysenteriae (Flexner) with acute symptoms. These patients were placed in isolation wards and were given polymyxin B or E by mouth in daily doses of approximately 15 to 20 mg. per kilogram of body weight for 10 days. The total daily dose was given in three equal portions. Of the 23 children treated with polymyxin, 20 (87%) were unequivocally cured of their infection, which had previously resisted therapy with sulfonamides and other antimicrobial agents. They remained bacteriologically negative for eight weeks after the end of treatment. No toxic side effects of the drug were observed. No difference was noted between the efficacy of polymyxin B and E. Polymyxin appears to be a useful drug for the oral treatment of chronic Shigella infection. Treatment with repeated courses appears feasible in view of the lack of toxicity of the polymyxins taken orally. These drugs are suggested for treatment of entire institutional populations wtih a high endemic incidence of Shigella infection.

Postgraduate Medicine, Minneapolis

10:175-268 (Sept.) 1951

Clinical Significance of Hematuria. C. C. Higgins.—p. 175.
Therapy of Chronic and Acute Lupus Erythematosus. J. H. Lamb, C. J. Young and C. Keaty.—p. 182.
Caries Control in Medical Practice. M. Massler and J. D. Zwemer. —p. 187.
Treatment of Megaloblastic Anemia in Infancy. C. W. Woodruff and J. C. Peterson.—p. 189.
Indications for Tonsillectomy and Adenoidectomy. F. L. Lederer.—p. 191.
Clinical Manifestations and Management of Jaundice. F. Steigmann, K. A. Meyer, H. Popper and others.—p. 197.
Primary Hyperparathyroidism. L. P. Howell.—p. 208.
Management of Low Potassium State in Patients on Low Sodium Diet. R. E. Fremont, A. B. Rimmerman and H. E. Shaftel.—p. 216.
Perforation of Intestine Without External Trauma. C. P. Schlicke. —p. 222.
Skin Lesions and Central Nervous System Diseases. H. H. F. Reese. —p. 230.
Chronic Cystic Mastitis and Cancer of Breast. H. A. Oberhelman. —p. 237.
Elderly Primipara: Statistical Study of 446 Consecutive Cases. E. H. Dennen and W. H. Ainslie.—p. 241.
*Herniated Cervical Intervertebral Disk Simulating Angina Pectoris. H. B. Weinberg, O. R. Hyndman and M. W. Van Allen.—p. 247.

Herniated Cervical Disk Simulating Angina Pectoris.—A man, 59, complained of intermittent pain in the substernal and left ulnar regions two years after an acute myocardial infarction. Electrocardiography utilizing unipolar limb leads and multiple chest leads revealed definite evidence of coronary artery disease. The attacks of pain, however, did not follow the pattern seen in angina pectoris, and neurological examination revealed hypalgesia of the ulnar aspect of the left hand and wrist, weakness in flexion of the fourth and fifth fingers, weakness in adduction of all fingers, and weakness in apposition of the thumb and little finger. There was atrophy of all the interossei. These findings suggested nerve root compression. Radiographic study showed diminution of the disk space between the sixth and seventh cervical vertebrae. At operation a large calcified herniated intervertebral disk, which was compressing the left seventh cervical nerve root, was removed. The pain disappeared and has not recurred. This case suggests that in suspected or even proved coronary disease the physician should make a careful examination of the hands in relation to muscular atrophies, weakness, and sensory disturbances. The presence of such findings should arouse suspicion of a possible herniated disk.

Review of Gastroenterology, New York

18:553-616 (Aug.) 1951

Acute Cholecystitis and Biliary Tract Disease. F. Glenn.—p. 563.
Surgical Therapy for Gastrointestinal Hemorrhage in Portal Hypertension. L. M. Rousselot.—p. 575.
Kolantyl, New Antispasmodic Preparation for Combined Therapy of Peptic Ulcer: Preliminary Report. A. R. Hufford.—p. 588.
Symbol Observed on Migraine Cases. T. S. Heineken.—p. 596.
Deodorization of Colostomies with Chlorophyll. M. Weingarten and B. Payson.—p. 602.

Rhode Island Medical Journal, Providence

34:349-404 (July) 1951

Periodic Disease, Tenth Annual Charles V. Chapin Oration. H. A. Reimann.—p. 365.
Democracy, Medical Progress and American Medical Association. E. J. McCormick.—p. 370.

U. S. Armed Forces Med. J., Washington, D. C.

2:1123-1268 (Aug.) 1951. **Partial Index**

Thoracic Injuries in World War II: I. General Considerations, Alterations of Pulmonary Physiology, and Therapy in Initial and Reparative Phases. H. K. Gray and J. D. Fryfolge.—p. 1127.
Electromyography. A. E. White and J. D. Amos.—p. 1151.
Treatment of Frostbite of Toes. J. B. Irwin and H. Schultz.—p. 1161.
Banthine in Treatment of Duodenal Ulcer. M. M. Meyer and J. A. Jarman.—p. 1165.
Thrombophlebitis. J. T. Rush and J. H. Forsee.—p. 1169.
Tantalum Foil Used in Closing Antro-Oral Fistulas. E. J. McClung and J. E. Chipps.—p. 1183.
Liver Suture. R. S. Silvis.—p. 1205.
Concealed Delayed Hemorrhage. J. T. Helsper, A. O. Heldobler and R. C. Anderson.—p. 1221.
*Amebiasis: Evaluation of New Therapies. R. A. Radke.—p. 1231.
Craniotomies in Korea. G. Clark.—p. 1235.
X-Ray Cones from Shell Casings. W. R. Scott.—p. 1239.
Portable Field and Aircraft Inhalator. R. G. Witwer, J. E. Ganci and H. B. Wright.—p. 1243.

Amebiasis: Evaluation of New Therapy.—In the patients studied by Radke the presence of Endameba histolytica was demonstrated in material aspirated from rectosigmoidal lesions or in fecal material. Thirty-five patients with amebiasis were treated with quinacrine and carbarsone, 38 with chloroquine and carbarsone, 33 with aureomycin alone, and 33 with an aureomycin, quinacrine, and carbarsone combination. Five patients included in the quinacrine-carbarsone group, three in the chloroquine-carbarsone group, one in the aureomycin group, and all of those in the aureomycin-quinacrine-carbarsone group had previously been treated unsuccessfully by other means. The quinacrine-carbarsone patients usually became symptom-free within the first five days of treatment. Yellow discoloration of the skin occurred in all patients, and some had nausea and vomiting, which disappeared when treatment was discontinued. The failure rate was 11%. The chloroquine-carbarsone group showed symptomatic improvement within five to seven days. A peculiar paresis of pupillary accommodation, which consisted in an inability to hold the focus longer than a few seconds, occurred in almost every patient. In addition, most of these patients had severe nausea and vomiting, which in two patients necessitated discontinuation of treatment. The failure rate was 78%. Some of the aureomycin-treated group showed symptomatic improvement of bowel symptoms within two days. Nausea, vomiting, and diarrhea developed in about half of the patients. The failure rate was 65%. The aureomycin-quinacrine-carbarsone treated group usually showed improvement of bowel symptoms within the first two days. As in the quinacrine-carbarsone group, a few patients complained of nausea and vomiting. The failure rate was 12%. Radke feels that patients with amebiasis can be managed either with quinacrine and carbarsone or with a quinacrine-aureomycin-carbarsone combination on an outpatient status. He hospitalizes only those with hepatic involvement accompanied by fever, those whom he suspects will not take the drug unless supervised, and those with severe reactions to treatment.

FOREIGN

Acta Gastro-Enterologica Belgica, Brussels

14:583-650 (July-Aug.) 1951. **Partial Index**

*Neurogenic Agent in Pathogenesis of Acute Pancreopathies. O. F. Longo, C. S. Gallardo and A. Ferraris.—p. 583.
Experimental Study of Ulcer Produced by Ligation of Pylorus in Rats: Protective Action of Diethazine Hydrochloride (2987 RP, Diparcol). K. Kowalewski, J. Van Geertruyden, E. Henrotin and W. Gepts. —p. 596.

Neurogenic Agent in Acute Pancreatitis.—Experiments by Popper and co-workers in the United States and by Mallet-Guy and co-workers in France were repeated by the authors. Results demonstrated that the splanchnic nerve plays an important part in the pathogenesis of acute pancreatitis. In this nerve two types of fibers are to be distinguished: the preganglionic and efferent vasomotor fibers, the stimulation of which determines vasoconstriction of the abdominal viscera, and the afferent sensory fibers, which under certain conditions may produce intensive arteriolocapillary dilatation. To supply evidence of the causative role of the latter mechanism in acute pancreatitis, additional experiments were carried out on dogs. Tetraethylammonium chloride was injected intravenously, thus inhibiting the vasoconstrictor fibers that cause spasms. After this injection, the left splanchnic nerve was stimulated twice for 20 seconds. Fatty necrosis of the pancreas was produced despite the blocking of the vasoconstrictor fibers. In another series of experiments the splanchnic nerve was sectioned, and, after an interval of 7 to 10 days, stimulation of this nerve was effected by injection of secretin or hydrochloric acid. Thus, sufficient time was allowed for wallerian degeneration to be produced at the peripheral end of the splanchnic nerve. Under these conditions only the afferent sensory fibers with cells in the spinal ganglion degenerate. On the contrary, the vasoconstrictor fibers in the preganglionic neuron are sectioned, while the postganglionic neuron, i. e., the one that produces the vasospasms, remains unimpaired. Necropsy revealed abdominal vasodilatation, and photomicrographs showed "pancreas with edema." Results thus demonstrated that the vasoconstrictor fibers are not the eliciting factor and that it is the stimulation of the sensory fibers of the splanchnic nerve that determines the initial vascular changes of the disease process.

British Journal of Industrial Medicine, London

8:117-198 (July) 1951

Effect of 2-3 Dimercapto-Propanol (BAL) on Experimental Nickel Carbonyl Poisoning. J. M. Barnes and F. A. Denz.—p. 117.
History of Lung Diseases of Coal Miners in Great Britain: Part I, 1800-1875. A. Meiklejohn.—p. 127.
Use of Standard Films in Radiological Diagnosis of Coalworkers' Pneumoconiosis. C. M. Fletcher and P. D. Oldham.—p. 138.
*Peritendinitis Crepitans and Simple Tenosynovitis: Clinical Study of 544 Cases in Industry. A. R. Thompson, L. W. Plewes and E. G. Shaw. —p. 150.
Air-Borne Dust Conditions in British Wartime Flax Scutching Factories. K. L. Goodall and P. J. Hardwick.—p. 161.
Erosion of Teeth Due to Tartaric Acid Dust. W. B. Elsbury, R. C. Browne and J. Boyes.—p. 179.
Rapid Estimation of Mercury in Atmosphere of Workrooms. M. Buckell. —p. 181.

Tenosynovitis.—This paper deals with simple or traumatic tenosynovitis as distinct from pyogenic or granulomatous involvement of the tendon sheaths. The 544 patients here reviewed were studied between 1941 and 1950 and were mostly factory workers, agricultural workers, and housewives. The tendons most frequently affected were the radial extensors of the wrist (extensor carpi radialis longus and brevis) and the abductor pollicis longus or extensor pollicis brevis, either alone or in combination. This lesion accounted for 419 (77%) of the whole series. The main factors in the etiology were change necessitating unaccustomed movement, resumption of work after absence, repetitive stereotyped movement, and local strain. The term tenosynovitis applied to the usual crepitating condition found proximal to the wrist joint is a misnomer. The actual site of the lesion is well above the upper limit of the tendon sheaths at the wrist, which are unaffected, the local pathology suggesting that it is essentially a perimyotendinitis involving the musculotendinous junction higher up in the forearm. It is suggested that peritendinitis crepitans, or perimyotendinitis crepitans, is a more accurate description for this condition and should replace the name tenosynovitis. Simple tenosynovitis, involving the tendon sheaths only, was observed in the other 125 patients. Pathologically, these lesions seem to represent an inflammatory response to strain in particular groups of muscles. The prognosis is good, and cessation of work is neither desirable nor necessary. Rigid immoblization in plaster of Paris is contraindicated and is associated with a high relapse rate. Where the lesion is situated proximal to the wrist, as in peritendinitis crepitans, treatment by immobilization should always include the thumb, because of the frequency with which the latter is involved. This is best effected by means of a detachable plastic splint, which permits very slight movement within the splint and will allow early passive movements to be given every other day. Short wave therapy is valuable in the treatment of certain resistant cases and can conveniently be given when a detachable splint is in use. The splint may be gradually discarded over several days, and the patient can frequently continue at his normal work. Subsidence of signs and symptoms may be expected by the eighth or ninth day of treatment.

British Journal of Radiology, London

24:413-468 (Aug.) 1951

SYMPOSIUM ON RADIATION CHEMISTRY

I. Radiation Chemistry in Relation to Radiobiology. C. B. Allsopp. —p. 413.
II. Elementary Processes in Radiation Chemistry of Water and Implications for Radiobiology. M. Burton.—p. 416.
III. Hydrogen Peroxide Formation in Water Exposed to Ionizing Radiations. P. Bonét-Maury.—p. 422.
IV. Review of Evidence for Production of Free Radicals in Water Consequent on Absorption of Ionizing Radiations. F. S. Dainton. —p. 428.
V. Some Aspects of Biochemical Effects of Ionizing Radiations. W. M. Dale.—p. 433.
VI. Radiation Chemistry of Organic Halogen Compounds. W. Minder. —p. 435.
Prolapse of Prepyloric Mucosa. P. F. J. New.—p. 441.
Intravaginal X-Ray Therapy of Malignant Gynaecological Tumours. R. K. Kepp.—p. 454.

Canadian Journal of Medical Sciences, Ottawa

29:151-238 (Aug.) 1951. **Partial Index**

*Effect of Ascorbic Acid on Experimental Hypertension. O. Héroux and L. P. Dugal.—p. 164.
Plasma Ascorbic Acid and Pituitary-Adrenal Activity. F. R. Skeleton and C. Fortier.—p. 176.
Enzymes of Gray Matter and White Matter of Dog Brain: Distribution of Certain Nonoxidative Enzymes. A. R. McNabb.—p. 208.
Poliomyelitis in Canadian Eskimos: Laboratory Studies. H. E. M. Clark and A. J. Rhodes.—p. 216.

Ascorbic Acid and Hypertension.—Previous investigations on the effect of ascorbic acid on the blood pressure revealed that the acid given in large doses has a hypotensive effect on normal blood pressure; that the initial hypotension due to sudden exposure to cold was prevented by large doses of ascorbic acid; and that the hypertension encountered upon long exposures to cold was lowered. The present paper confirms the last result and also shows that ascorbic acid has a hypotensive action on experimental hypertension obtained by: (1) excess of sodium chloride in drinking water and (2) renal compression. The hypertension and adrenal hypertrophy caused by long exposure to cold regress when the animals are brought back to normal temperature. In its initial phase, the experimental renal hypertension is lowered by ascorbic acid but this effect cannot be obtained in the chronic phase.

Giornale di Clinica Medica, Parma

32:505-620 (May) 1951. **Partial Index**

Role of Adrenal Cortex in Hyperthyroidism Revealed by Assay of 17-Ketorosteroids and Glucocorticoids in Urine. P. Lorenzini and G. Veggetti.—p. 505.
*Considerations on 40 Cases of Cancer of the Lungs. G. Casolo.—p. 532.

Cancer of the Lungs.—Clinical observations on 40 patients with cancer of the lungs are reported. The diagnosis was established by roentgenologic examination in 16 patients, in 5 by roentgenographic detection of bone metastases, in 5 by biopsy of

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supraclavicular or lateral cervical lymph nodes, and in fourteen by bronchoscopy and bronchial biopsy. In one patient the previous diagnosis was confirmed by microscopic examination of tissue expectorated in coughing. Surgical intervention seemed justified in three patients. One with adenocarcinoma localized in the upper left lobe underwent lobectomy but died within four months from cerebral metastases. Of the two patients with invasive cancer of the upper lobe who underwent pneumonectomy, one died within six months because of cancer cachexia and one is still living but has metastases in the supraclavicular lymph nodes. Twenty-nine patients died, and there is no hope of recovery for the eight still living. These discouraging data are explained by the fact that the disease was too far advanced at the time of consultation, either because symptoms had been absent or atypical or because the patient had delayed too long before seeking aid. The author reviews the objective and subjective symptoms of pulmonary cancer and stresses the necessity of early diagnosis, which may be facilitated by periodic mass radiography.

Presse Médicale, Paris

59:1109-1124 (Aug. 18) 1951

*Complex Pseudodeficiency Syndromes After Gastrectomy. R. Cattan, R. Carasso and P. Frumusan.—p. 1109.
Statistical Research on Accidents Caused by Snake Bite in Denmark and in Sweden During Period of 1900 to 1947. H. Marquart.—p. 1110.

Pseudodeficiency Syndromes After Gastrectomy.—Several years ago French investigators reported for the first time the occurrence of a grave and complex deficiency syndrome in patients having undergone gastrectomy. The authors reported in an earlier paper on three patients who had clinical characteristics of progressive emaciation, diarrhea, edema, and anemia, and the biological characteristics of a pronounced fall in serum proteins as well as pronounced hypolipoidemia. The diagnosis of this deficiency syndrome should be based on both clinical and biological criteria. The present report concerns three patients on whom gastrectomy had been performed, two men, aged 37 and 54, and one woman aged 42, in whom an erroneous diagnosis of this deficiency syndrome was made on the basis of clinical observations of emaciation, edema, anorexia, and anemia. Nutritional disturbances simulated a "deficiency syndrome," while a thorough examination revealed a rectoperitoneal metastasis in the first male patient, cirrhosis of the liver in the second, and a deficiency state associated with hypoglycemia in the woman. Although all three presented the clinical characteristics of the true deficiency syndrome, the functional tests were negative. The lipid contents of the blood were normal in all three patients, and the serum proteins did not show any change in the man with rectoperitoneal metastasis nor in the female patient. Only the second male patient had hypoproteinemia, but determination of the galactose concentration in the urine and puncture biopsy of the liver demonstrated that the hypoproteinemia was attributable to the cirrhosis of the liver. From the observations in these three cases the authors conclude that the true deficiency syndrome is a severe but rare complication of gastrectomy.

Ugeskrift for Laeger, Copenhagen

113:885-918 (July 5) 1951

*Acute Laryngotracheobronchitis in Children. S. O. Siemssen.—p. 885.

Acute Laryngotracheobronchitis in Children.—Siemssen asserts that acute nonspecific laryngotracheobronchitis in children is not well enough known. He attributes to it a number of unexplained deaths in children and cases erroneously diagnosed as primary pulmonary affections. It is defined as a symptom complex depending on an infectious nonspecific, probably virogenic, descending stenosing process in larynx and the lower respiratory passages. In acute cases suffocation is the immediate danger. When the course is more protracted hyperpyrexia and shock threaten as a general reaction to the infection. Pulmonary complications aggravate the prognosis. The disorder is a grave complication in epidemic subglottal pseudocroup. It sometimes, not often, appears as a complication in acute contagious diseases of children. Attention is called to the peculiar regression from laryngeal stridulous dyspnea to superficial tracheobronchial dyspnea without stridor on spread of the stenosing process to the lower respiratory passages. Four cases are presented in detail. With the present day chemotherapy treatment is now attempted along conservative lines. The necessity for careful observation and readiness for possible endoscopic surgical intervention is stressed. The cooperation of practitioners, internists, or pediatricians and otolaryngologists is important.

113:919-956 (July 12) 1951

*Myelosclerosis. A. Pinholt Andreasen.—p. 919.
*Osteosclerosis Disseminata Familiaris: Review and Five New Cases. H. P. Østergård Kristensen.—p. 929.
*Diagnostic Splenic Puncture: Experiences in Examination of 300 Punctates. C. Johansen.—p. 933.

Myelosclerosis.—Andreasen describes six cases of myelosclerosis, each in its way typical. Maturation substances necessary for bone marrow function are thought to be formed or absorbed by the organism and carried by the bloodstream to the bone marrow. The syndrome of myelosclerosis consists of (1) a primary inflammation of the bone marrow with small hemorrhages and necroses followed by fibrosis and sclerosis, (2) extramedullary foci in the spleen, which substitute for the bone marrow and from which immature blood corpuscles enter the peripheral blood, and (3) inhibition of the remaining intact bone marrow. The splenomegaly secondary to the bone changes may become marked. Hemopoietic foci may be found in the liver and, rarely, in the lymph nodes. As there may be larger or smaller areas with normal or hyperplastic bone marrow in between fibrous bone marrow, myelosclerosis cannot be excluded if the first biopsy is normal. Cancer metastases to the bones may give a picture like that of osteosclerosis in myelosclerosis. Careful search for a primary tumor must be decisive in cases with short history; long history testifies against cancer. In every case of chronic aleukemic leukemia or enlarged spleen in supposed polycythemia, the possibility of myelosclerosis should be considered. Many cases in which transition between true polycythemia and chronic myeloid leukemia have been described are believed to have been cases of myelosclerosis, where first the erythropoietic tissue in the spleen then the myelopoietic tissue has predominated. Correct diagnosis of myelosclerosis is important, because the therapy indicated in most of the disorders readily confused with it is contraindicated in myelosclerosis. Splenectomy or powerful irradiation of the spleen deprives myelosclerosis patients of their extramedullary hemopoietic apparatus, and grave blood crises result. Most patients live several years after the diagnosis of myelosclerosis. One of the cases reported was exceptional in that the course was violent and ended fatally a year and a half after diagnosis.

Osteosclerosis Disseminata Familiaris.—Kristensen concludes that osteosclerosis disseminata familiaris is a benign bone disease with generalized symmetric localization, in some cases accompanied by characteristic cutaneous changes. It is a familial constitutional anomaly transmitted by dominant inheritance. The five cases reported, all in one family, were an accidental finding on roentgen examination for other cause. Cutaneous changes seen in two cases were typical in one case, less characteristic in the other. The blood picture, examined in two cases, was normal, as were the serum calcium and serum phosphatase examined in one case. One patient had vague joint symptoms and muscular weakness of transient kind, another had had rheumatic pain in the muscles since childhood.

Diagnostic Splenic Puncture.—Johansen says that in recent years more exact diagnosis of hematological and parahematological affections has become necessary, since the use of such potent therapeutic substances as urethane, 4-aminopteroyl glutamic acid (aminopterin®), radioactive phosphorus, corticotropin, and cortisone depend on the diagnosis. Particularly is this true with regard to the differential diagnosis of chronic myeloid leukemia, leukemoid myeloid reactions, polycythemia, and splenogenic anemias including the nonspecific reticuloses. Examination of the splenic punctate may be a valuable supplement to examinations of the blood and bone marrow in almost all forms of splenomegaly. In obscure and borderline cases, splenic puncture not infrequently gives important information, without which there is danger of institution of wrong treatment, with grave or even fatal consequences.

BOOK REVIEWS

Inhalation Anesthesia: A Fundamental Guide. By Arthur E. Guedel, M.D. Second edition. Cloth. $3.75. Pp. 143. The Macmillan Company, 60 Fifth Ave., New York 11, 1951.

In a book written by one of the venerable men in anesthesia in this country, one expects to encounter indications of philosophic reflection on a practice of anesthesia which has extended over many years and has been of a pioneer nature. Those who read Dr. Guedel's new edition of his standard textbook will be pleased to note that there is ample opportunity for obtaining good insight into his philosophy regarding the practice of high quality anesthesia.

Dr. Guedel developed his original edition as a result of a demand for a forthright manual on the everyday clinical practice of anesthesia. His approach to the problem was based on his extensive experience in instructing a heterogenous personnel during World War I. He has maintained the same simple plan in presenting the material in the new edition, and the neophyte in anesthesia will be able to acquire and apply the material available to him in this book with satisfaction and safety. The book is more on the order of a manual rather than a reference book or complete textbook. Each problem is treated concisely, and there is a minimum of physiologic and pharmacologic background material. There is room for argument about his interpretation of some of the latter material that is included, but this does not detract from the practical usefulness of the book and it is not erroneous.

The format is good, with readable type and appropriate paragraphing. There is a minimum of illustrations but little indication for more. The writing is lucid and the style simple. There is a good reference bibliography, but one is somewhat surprised to find John Snow's excellent monographs missing from the list.

The case reports that are included are presented in a most interesting and homely style and are useful in pointing up common anesthetic problems. These reports give an insight into the tremendously extensive experience in anesthesia that this outstanding man has had. The reports also give a clear representation of how easy it is to overlook details that predispose to anesthetic difficulties.

The book is heartily recommended for those who are looking for a simple introduction into the specialty of anesthesiology and for those who are interested in the experiences and philosophy of a pioneer in the field.

The Electrocardiogram in Pulmonary Tuberculosis. By Allan Björkman, Med. Lic., S.N. [Thesis, M.D., Uppsala University.] Translated by K. M. Lindskog. Paper. Pp. 152. Esselte Aktiebolag, Stockholm, 1951.

This monograph is a study based on careful measurement of the various components of the electrocardiogram in the three standard limb leads in four groups of patients; tuberculous patients, controls, ambulant pneumothorax patients, and patients with acute rheumatic fever. The author observed a greater incidence of abnormal electrocardiograms among tuberculous than the nontuberculous patients. He noted a tendency especially toward lower P and T waves in leads 1 and 2 among the tuberculous patients, the differences from the control group being statistically significant. The various factors that could possibly be responsible for these differences were then studied. They included the incidence of nontuberculous heart disease, changes in heart position due to body build or collapse therapy, the importance of increased heart rate, chronic cor pulmonale, the severity of the tuberculosis, and bed rest. By statistical analysis the author claims that, after all of the above factors are taken into consideration, singly or in combination, they could not be considered the cause of the abnormalities in the P and T waves in the tuberculous patients. He further shows that similar changes occur in acute rheumatic fever. He concludes that the changes in the electrocardiograms in the patients with tuberculosis are due to some as yet poorly understood form of myocardial damage. It is hinted that a possible relationship may exist between these electrocardiographic abnormalities and some of the anatomic changes in the heart occasionally reported at necropsies of tuberculous patients, such as interstitial myocarditis, Aschoff's nodules, and brown atrophy.

The book is mainly statistical. There are no illustrations of chest roentgenograms or electrocardiograms. Limb leads alone were studied. In some cases, in order to isolate some factor for study, repeated subdivisions are made of an initially large group. This leads often to comparisons of groups that have thus become too small for valid comparison. The book includes a good review of the literature of heart disease and the electrocardiogram in tuberculosis.

The Chemical Senses. By R. W. Moncrieff. Second edition. Cloth. 21s. Pp. 538, with 30 illustrations. Leonard Hill Limited, 17 Stratford Pl., London, W.1, 1951.

The author gives a detailed account of the modern knowledge of taste, smell, and related chemical senses, and he summarizes the accumulated work of so many chemists, physiologists, and psychologists that the total effect is most impressive. The information is well digested, and the treatment is consequently unified and coherent. Of special medical interest are the discussions of anosmia and parosmia (pages 113 to 119). Of more general interest are the recent discoveries about taste-blindness, as illustrated by phenylthiocarbamide (pages 151-157, 169, and 219), and the author's 62 principles relating chemical constitution to odor (pages 300 to 304). The necessarily frequent references to such things as lemon and mint, tansy, and geranium give the book an intrinsic esthetic appeal, but the subject has innumerable practical applications in the processing of foods and the manufacture of cosmetics. Workers in these fields, as well as chemists, physiologists, and psychologists, will find this book indispensable. It deserves high praise.

Surgery of the Stomach & Duodenum: A Handbook of Operative Surgery. By Claude E. Welch, M.D., Associate Visiting Surgeon, Massachusetts General Hospital, Boston. Cloth. $8.50. Pp. 349, with illustrations by Muriel McLatchie Miller. Year Book Publishers, Inc., 200 E. Illinois St., Chicago, 1951.

It is the experience of most surgeons in charge of surgical services in hospitals to find that the interns and residents in surgery have but a vague idea regarding the important procedures on the stomach and duodenum. This confusion is largely due to a profusion of names given to the various operative interventions on these viscera as well as to the lack of agreement among the surgeons themselves as to what is Billroth I, Billroth II, the Hoffmeister, or Reichel. Furthermore, there is frequently a lack of understanding of the physiologic effects of these procedures. This small volume is intended to fill this gap. The practical value of the book is in the fact that the author limits himself to the more important and more frequently performed operations, to the exclusion of the rarer interventions. The author relies more on illustrations than on text. Brevity and emphasis on what is important should make this small volume particularly valuable for the intern, the resident, and the younger surgeon.

Handbook of Gynaecology. By Trevor L. S. Baynes, M.D., F.R.C.S., M.R.C.O.G., Consulting Gynaecologist, Bolingbroke Hospital, London. Cloth. 15s. Pp. 163. Sylviro Publications, Ltd., 19 Welbeck St., London, W.1, 1951.

This small volume is intended primarily as an outline of gynecology; it contains an excellent summary of the best teaching in this subject. It is not the intention of the author that it substitute as a textbook, but it will function best as a pocket-size manual for candidates for examinations. The field is well covered, and no criticism is found in the discussions of the subject matter. The book compares very favorably with others used in "brush-up" courses.

The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

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Symposium on Burns. Held at request of Committee on Medical Sciences of Research and Development Board, National Military Establishment by Subcommittee on Burns of Committee on Surgery of National Research Council, November 2-4, 1950. Paper. Pp. 207, with illustrations. National Research Council, National Academy of Sciences, 2101 Constitution Ave., Washington 25, D. C., 1951.

The symposium included practically every aspect of the subject of burns. The problem of radiation received considerable attention. Everett I. Evans emphasized that the experiences with the atomic bomb explosion at Hiroshima indicated that death was caused by mechanical trauma, thermal trauma, and radiation. He emphasized that the burn problem in atomic bomb explosion is not that of a simple burn but one that is complicated by radiation injury. The introduction of flame throwers presented physiologic problems which were discussed by James Walker. The subject of fluid and electrolyte requirements in burns was considered in its many aspects. Renal and pulmonary complications accompanying severe burns were presented from the experimental viewpoint and from clinical experience. Treatment of burned area, infections in severe burns, and nutritional care of burn patients occupied a portion of the third session. Early débridement of burn wound, plastic repair of severe burns, as well as the subject of triage and evacuation were included in the discussion. The symposium represents the most recent and most authoritative information on burns. It marks an important step in the functioning of the National Research Council. Its value is that of crystallizing the available information on the subject and probably even leading to reorientation of the entire research program in this important field.

A Doctor's Pilgrimage. By Edmund A. Brasset, M.D. Cloth. $3.50. Pp. 256. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5, 1951.

Any physician who is engaged in general practice, particularly if he started his practice in a small town during the depression 1930's, will get a great deal of enjoyment from reading Dr. Brasset's "pilgrimage." Even though he may not have practiced in the far corners of Nova Scotia, he will find that Dr. Brasset's friends and patients epitomize the friends and patients of any doctor in any town. Long-forgotten memories will spring to life as he reads descriptions of interesting persons, trying situations, joys and sorrows associated with growing up in medicine.

This is a delightful story that started with a young man in medical school; it follows his thinking and his actions step by step through his first attempts at practice and experience with contract practice, a period in an institution, and finally the joys of a practice that really worked out. Throughout all of this, one can feel the guiding influence of the wise young woman that the doctor married. At the end of the story he reaches the fulfillment of his life-long desire to study brain surgery and discovers that, after all, his life is with his people, so he goes back to take up general practice where he left it.

In small communities physicians might recommend this book to selected friends and patients as a public relations gesture in giving them one doctor's point of view of the attitude physicians have toward patients and people in general. It is a healthy point of view that any physician could well endorse.

Return from the Pole. By Frederick A. Cook. Edited, with introduction, by Frederick J. Pohl. Cloth. $4.50. Pp. 335, with portrait of author. Pellegrini & Cudahy, Publishers, 41 E. 50th St., New York 22, 1951.

Dr. Frederick A. Cook, a former practitioner of medicine in Brooklyn and a widely known explorer, wrote this account of his return from the North Pole in longhand shortly before his death in 1940, at the age of 70. The controversy concerning whether Dr. Cook discovered the North Pole on April 21, 1908, or whether Admiral Perry did so on April 6, 1909, has raged for many years. This book offers new evidence in this dispute. The book is edited by Frederick J. Pohl, writer on exploration and head of the English department of Boys High School in Brooklyn for many years. Mr. Pohl re-examines the evidence in a lengthy introduction to this book. He concludes that Dr. Cook reached the North Pole. Dr. Cook's daughter aided Mr. Pohl in providing the diaries, notebooks, and unpublished writings of her father. The story as told here is tremendously interesting. Dr. Cook was accompanied on his final dash north from Greenland by two young Eskimos. They selected a route which enabled them to feed themselves and their dogs from musk oxen and bears secured along the way for half of the polar distance. As they expected to return along the same route, they left caches of food and equipment at land points every 50 miles. But they became lost on their return journey and traveled a much longer and more hazardous route, which delayed them for a year. They encountered hardships that few human beings have endured. They traveled for days on floating ice, lived for a time on an iceberg, and spent the long arctic night in a cave in which there was room for only one man to stand up at a time and in which they were frequently endangered by wild animals. They suffered from the intense cold and from hunger. Their determination to live and return home nobly demonstrates how the spirit of man can overcome almost unbelievable physical hardships.

Anatomy in Surgery. By Philip Thorek, M.D., F.A.C.S., F.I.C.S., Assistant Clinical Professor of Surgery, University of Illinois College of Medicine, Chicago. Cloth. $22.50. Pp. 970, with 720 illustrations by Carl T. Linden. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1951.

This excellent volume, which should be well received by the surgical profession, will fill a real need in surgical literature. It is written from a different point of view than have most works on anatomy for surgeons. Operative technic accompanies surgical anatomy. Not all operations are discussed, but in the majority of instances the most important operations are adequately discussed. The volume is not a large one when one considers that the entire body has been covered.

The illustrations are excellent, and the great majority of these are in color. They are attractive and instructional. The material presented is good; it is clearly and concisely presented. Dr. Thorek is an excellent teacher, as this volume demonstrates.

This book is recommended to everyone interested in surgery as a valuable reference volume and at the same time as a volume from which much instruction will be gained. It will be, and should be, well received by the entire surgical profession.

Les ultra-sons appliqués à la médecine. Par André Dénier. Paper. 1000 francs. Pp. 192, with 21 illustrations. L'Expansion scientifique française, 23 rue du Cherche Midi, Paris, 6e, 1951.

The rapidity with which clinical literature on ultrasound has accumulated is astonishing. The report on the 1949 congress on the subject in Erlangen gave a bibliography of 554 references, and a large exhaustive bibliography has recently been supplied by Curry. The present contribution by Dénier summarizes the subject for French readers. It is unfortunately quite uncritical, and the illustration opposite page 96, showing the application of ultrasound to a patient's solar plexus, is typical. The new modality is recommended for everything from enuresis to gingivitis; on page 81 good results are claimed for asthma, and on page 124 the author states that there is nothing to lose by trying ultrasonotherapy for deafness before fenestration. Doubt as to the accuracy of the contents of this book is increased by the unusual number of errors in the bibliography. The "Blades" named on page 67 is a well-known American scientist, and the "Harward" mentioned on page 9 a well-known American university. Schmidt, Pohnssen, and Ohlssen referred to on page 26 are apparently the same as the Schmitt, Johnson and Olson of page 178. The book may be useful to French readers as an introduction to the subject and as a possible source of references that may have escaped other bibliographers but will have little appeal to American physicians.

Summary of Annual Reports of Governments 1949. United Nations Commission on Narcotic Drugs, Economic and Social Council. Paper. 80 cents. Pp. 88. Columbia University Press, 2960 Broadway, New York 27, 1951.

The practicing physician is not apt to be interested in this 88-page pamphlet, which contains information culled from the annual reports submitted by 37 sovereign states and 51 non-self-governing territories. The data presented deal largely with the regulatory control and economic aspects of traffic in narcotic drugs during 1949. Government officials concerned with the enforcement of laws relating to the manufacture, distribution, and sale of narcotic drugs are likely to be most interested in a publication of this nature. Persons concerned with the sociological aspects of drug addiction as a general problem undoubtedly would find it to be a useful reference for obtaining certain valuable and informative data.

QUERIES AND MINOR NOTES

DIABETES MELLITUS

TO THE EDITOR:—*A woman, 43, has had diabetes mellitus for three years, and during that period she has lost 20 lb. (9.1 kg.). Her present weight is 118 lb. (53.5 kg.), and her height is 5 ft. 3 in. (160.02 cm.). Her blood sugar averages between 160 and 192 mg. in 100 cc. of blood. Her urine is never sugar-free. For two years she has been taking between 18 and 22 units of protamine zinc insulin daily before breakfast. She was referred to a diabetic specialist, who took her off the insulin and advised her to eat a regular diet. During one week she lost 4 lb. (1.8 kg.). She was then referred to another diabetic specialist, who found 3 + sugar and acetone in the urine. He was not interested in the blood sugar. He advised her to continue with 20 units of protamine zinc insulin daily before breakfast. He did not outline a diet and advised her to eat everything, including bread, potatoes, macaroni, and, occasionally, ice cream. Not once did he perform a blood sugar test. He stated that as long as the patient was symptom-free she need not worry. He diagnosed her case as mild diabetes. In three months she has not gained an ounce. Could you please advise me how she can gain some weight.*

M.D., New York.

ANSWER.—It is not stated whether the blood-sugar values were obtained with the patient in the fasting or postprandial state, whether venous or capillary blood was used, or whether the determination was made by a "true" blood-sugar method or one which measures also certain nonglucose reducing substances. However, assuming that the values given were obtained in the fasting state on venous blood samples by the Folin or similar method, then the diagnosis of diabetes would appear to have been established. However, the patient deserves careful study with postprandial as well as fasting blood-sugar determinations and studies to rule out some complication such as hyperthyroidism or tuberculosis.

If possible, the patient should enter a hospital in which a weighed diet may be provided, frequent tests of the blood and urine made, the proper insulin dose established, and detailed instruction given in all phases of the home management of diabetes. The diet should provide 150 to 200 gm. of carbohydrate a day, at least 1 gm. of protein per kilogram of body weight, and sufficient fat to allow the patient to regain weight gradually to within 10 lb. (4.5 kg.) of standard for age, sex, and height. The amount of fat will be presumably between 60 and 100 gm. a day. If on a restricted diet alone a sugar-free urine and satisfactory blood-sugar values cannot be obtained, then insulin should be prescribed in appropriate amount. Presumably this would be of protamine zinc or NPH type without or with an accompanying dose of regular insulin, both given daily before breakfast.

DAMAGE CAUSED BY RIVETING

TO THE EDITOR:—*I understand there is a disease of the hands that riveters get from using a riveter for a long time. Is this true?*

Paul L. Stuck, M.D., Wilmington, N. C.

ANSWER.—The coarse vibration from manual riveting, hot or cold, may result in inflammation in various tissues of the upper extremity and notably lead to tenosynovitis. Another condition, "dead fingers" or "white fingers," is caused by more rapid and finer vibrating tools. For production reasons and to avoid noise (the chief riveting offense) as well as tenosynovitis, much riveting is accomplished by "squeezing." This calls for a different type of equipment, which is commercially available. At present, welding of various types has extensively replaced riveting. The "squeeze" method eliminates both noise and vibration.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

HIATUS HERNIA

TO THE EDITOR:—*May I have the latest information on the treatment of diaphragmatic hernia (hiatus)? The patient is aged 73 and has some cardiospasm. There is a sense of discomfort in the mediastinal region, eructation of gas, regurgitation, cough, and expectoration of frothy mucus, day and night. There is cardiac arrhythmia and distress from flatulence, constipation, nervousness, and insomnia. The laboratory reports are normal. The x-ray diagnosis is hiatus.*

M.D., California.

ANSWER.—The best treatment for hiatus hernia is a transpleural operation on the left side. Such an approach gives by far the best exposure and, therefore, makes it easier to correct the condition. As a part of the operation it is desirable to remove the sac, as in an operation for any other kind of hernia. There is some difference of opinion as to whether it is desirable to paralyze the diaphragm temporarily by crushing of the phrenic nerve. To any surgeon with wide experience in intrathoracic surgery the operation is not a difficult one, and it carries a low mortality.

The risk in a patient aged 73 is, of course, greater than in a younger person. Sometimes some relief of symptoms may be obtained if the phrenic nerve is crushed in the neck, which is naturally an operation of less magnitude. This procedure, however, may also sometimes be accompanied by distressing symptoms. One cannot be certain, therefore, whether with the simple phrenic operation of the neck the patient's condition will be better, worse, or unchanged.

ISOPROPYL ALCOHOL

TO THE EDITOR:—*Please advise me whether isopropanol (refined, 91%) can be used in place of ordinary rubbing alcohol in general practice for alcohol sponges, giving hypodermics, and cleaning needles and syringes. I clean my hands after examining a patient (in the home) with alcohol sponges. Would repeated cleansings of the hands with this agent cause any deleterious effects?*

M.D., West Virginia.

ANSWER.—Isopropyl alcohol (isopropanol) may be substituted for ethyl alcohol in many instances. In physical properties it closely resembles ethyl alcohol; it is readily miscible with water in all proportions and possesses fat solvent properties somewhat greater than ethyl alcohol.

Isopropyl alcohol rubbing compound N.F. contains 68 to 72% of isopropyl alcohol, by volume, in water, with or without certified coal tar colors and perfume oils. As a disinfectant, isopropyl alcohol possesses antibacterial properties and limitations similar to those of ethyl alcohol. Neither is sporicidal and should not be relied on for sterilization. Many vegetative forms of bacteria are destroyed by both alcohols, and isopropyl alcohol is frequently utilized for the disinfection of oral thermometers. Isopropyl alcohol is available commercially as 91 to 99% by volume; most authorities recommend the concentrated solutions for use as a disinfectant, although others recommend 50 to 80% solutions. Isopropanol combines readily with proteins and should not be used for primary cleansing of syringes and needles. The commercial preparation may contain spore-forming micro-organisms, which can be removed by bacterial filters; after filtration, the solution may be used for storage of sterile instruments, needles, and syringes. An antioxidant (rust preventer, e. g., sodium nitrate, sodium borate) may be incorporated in solutions used for storage of instruments. For skin disinfection, alcohol and other chemical agents should not be substituted for thorough mechanical cleansing.

The irritant properties of isopropyl alcohol are similar to those of ethyl alcohol; all syringes and needles should be free from residual amounts of these compounds prior to hypodermic injections. Studies with undiluted and 50% isopropyl alcohol applications, twice daily for 25 days, to areas of about 300 sq. cm. on

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the arms of three persons failed to produce skin irritation or absorption. Local effects, similar to those produced by ethyl alcohol, result from wearing bandages saturated with isopropyl alcohol.

Isopropyl alcohol is a clear, colorless liquid with a slightly bitter taste. It has been reported that humans have imbibed 0.5 to 22 cc. of isopropyl alcohol in strengths comparable to that of wine or whiskey with no evidence of exhilaration or incoordination, although headaches resulted after two or three hours, the pulse was lowered, and some loss in appetite was noted. Inhalation of the vapors does not cause the visual defects associated with methyl alcohol. Isopropyl alcohol requires no government permit or record of its disposition, is not subject to the taxation requirements exercised by the federal government on ethyl alcohol, and therefore has "price appeal" as a disinfectant and solvent.

GAUCHER'S DISEASE AND ATRESIA OF BILE DUCTS IN INFANTS

TO THE EDITOR:—*A patient asked whether she could expect a normal child if she should attempt a third pregnancy. In 1946 she delivered a 6½ lb. (2,948 gm.) male at term, who died at 26 months of Gaucher's disease. In September, 1950, she delivered her second child, a 7½ lb. (3,289 gm.) girl who was jaundiced at birth; she was operated on in her third month and found to have atresia of the bile ducts. This child died in her sixth month. The mother's Kahn reaction is negative. She is Rh positive and has always been in good health. The father is also Rh positive (anti-Rho "anti-D" 85%).*

M.D., Missouri.

ANSWER.—The clinical story presented is not that of isosensitization in pregnancy, and this is borne out by the fact that the patient is Rh positive. The history of the first baby dying from Gaucher's disease and the second with atresia of the bile ducts is indeed remarkable. The cause of these two anomalies is unknown, and, though they appear to be genetically determined, they certainly are not related to each other. With respect to Gaucher's disease, there is evidence of its hereditary transmission as a mendelian recessive, so that when both parents are normal carriers of the gene, as in the present case, one-fourth of the children will be affected. Therefore, the chance of this condition's recurring in subsequent children is 1 in 4. With respect to congenital malformation of the bile ducts, this also appears, at least in some families, to be inherited as a recessive, and Sweet encountered a family in which three consecutive infants died from complete atresia of the bile ducts. Since presumably Gaucher's disease and atresia of the bile ducts are independently inherited, and for each condition the chance of the baby's being unaffected is three-fourths and of being affected is one-fourth, the prospect for the next baby would be as follows: perfectly normal, 9/16; affected with Gaucher's disease but without atresia of the ducts, 3/16; having atresia of the ducts but not Gaucher's disease, 3/16, and affected by both conditions, 1/16.

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POLYCYTHEMIA RUBRA VERA AND BLOOD TRANSFUSIONS

TO THE EDITOR:—*Should persons with polycythemia rubra vera be used as donors in routine blood transfusion work?*

Merrill J. Wicks, M.D., Tacoma, Wash.

ANSWER.—There is no sound scientific contraindication to the use of blood from persons with polycythemia rubra vera. Many blood banks have routinely given transfusions of such blood to patients. The infusion of such blood has not been accompanied by any complications or increased incidence of reactions. Refusal to use such blood is primarily based on esthetic grounds.

IDIOPATHIC ALOPECIA

TO THE EDITOR:—*A girl, 17, complains of gradual loss of hair for a period of six months. The hair is very thin over the entire scalp. There is no obvious disease of the scalp itself. This patient's diet is adequate, and there is no history that would indicate any endocrine dysfunction. The remaining hairs appear healthy. This is not a patchy loss, as with alopecia areata. Have you any suggestions?*

M. A. Shillington, M.D., Glendive, Mont.

ANSWER.—From the description it would seem that this patient has mild, diffuse alopecia. A note as to the condition of the hair elsewhere on the body might have been of some help. If there is no obvious disease of the scalp, if the patient has not been ill recently, and if she manifests no evidence of systemic disease at present, she probably has idiopathic alopecia. It would also be well to know whether her father or brothers became bald prematurely. If the scalp is tight, it might be that mild, constant irritation with the following prescription would be of help; cade oil, 20%; precipitated sulfur, 10%; salicylic acid, 5%, and qualatum (petrolatum 90%, glycerol monostearate 10%), in a quantity sufficient to make 1 oz. (30 cc.). This should be applied directly to the scalp, in small amounts, and should be rubbed in vigorously. The hair should be shampooed the following day. Medication other than local is not helpful in conditions such as this.

AMENORRHEA FOLLOWING SHOCK TREATMENTS

TO THE EDITOR:—*A schizophrenic patient received seven shock treatments, after which she was discharged and permitted to return home. It is now three months since her last treatment, and she has not yet menstruated. She is 22 years old and began menstruating at 15. Her periods were always late, usually at six or eight week intervals. My patient is disturbed over the delay. I would appreciate any suggestions you may offer.*

J. S. Wagner, M.D., Glendale, N. Y.

ANSWER.—Kalinowsky and Hoch (Shock Treatments and Other Somatic Procedures in Psychiatry, New York, Grune and Stratton, 1946) say: "Menstruation often ceases during a long course of ECT. In these patients as well as in those in whom amenorrhea already accompanied the psychosis prior to treatment, normal function usually returns about two months after successful treatment. This is likewise true in many cases of so-called involutional psychosis at the age of between 45 and 50, when menstruation had ceased but returns. These patients who become amenorrheic only during the treatment but regain their regular cycles sometime after, demonstrate that the psychosis alone does not explain the endocrine disturbance, but that the treatment itself probably influences the diencephalic centers for these endocrine functions. It may be added that amenorrhea during ECT is not limited to psychotics alone but is seen in neurotics as well."

ABSENCE OF DUCTUS DEFERENS

TO THE EDITOR:—*A patient was told by a urologist that he has congenital absence of the ductus deferens but that a biopsy of the testicle revealed that active, viable spermatozoa were being formed. Can semen be taken from the testicle, mixed with saline and injected into his wife's uterus at the fertile time of the month, with any hope that the wife will be impregnated?*

James G. Gaume, M.D., Ellinwood, Kan.

ANSWER.—Semen can be taken from the testicle, mixed with saline and injected into the wife's uterus. The chances of effecting a pregnancy, however, are very small. Intracervical introduction of a mixture of semen and Ringer's solution has been found successful in a few cases. Small amounts of semen, less than 1 cc., should be used for each insemination. Great patience must be exercised, as success in these cases depends on precise synchronization with ovulation. The longevity index of spermatozoa obtained by testicular puncture and maintained in Ringer's solution is greatly diminished. If this procedure is unsuccessful, then adoption or donor artificial insemination should be considered.

SUBCUTANEOUS OXYGEN THERAPY

To the Editor:—*A 73-year-old man in severe subacute myocardial failure following two episodes of acute failure has had left bundle branch block and severe arteriosclerotic heart disease for the past 12 years. After one week in an oxygen tent with the usual therapy, his status was still critical. Another physician began subcutaneous abdominal oxygen therapy, giving 500 to 750 cc. once or twice daily. After a week of this treatment in addition to our own treatment and expert nursing care around the clock, he is still seriously ill, but not in the critical condition he was in one week ago. I cannot conceive of how this mode of oxygen therapy can be of any value, especially since he receives over 6,000 liters daily while in the tent. I would appreciate a clear-cut statement from one of your authorities.*

Irving C. Shavelson, M.D., Atlantic City, N. J.

Answer.—There is no proof of benefit from subcutaneous oxygen. Certainly, inhalation will supply very much more oxygen. Also, subcutaneous abdominal oxygen therapy is a nuisance, and it would seem preferable to omit it. This patient's improvement is doubtless due to other reasons, in particular the natural tendency of cardiac patients to improve with rest, expert nursing care, and the other therapy mentioned.

ARTHRITIC JOINTS

To the Editor:—*Is there any acceptable method of treatment to separate bone on bone pressure in chronic rheumatoid arthritis with absorption of most of the articular cartilages, e. g., in a knee joint? We understand fibers such as nylon have been tried. Would a heavy sterile oil be practical?*

Malcolm L. Raymond, M.D., Johnstown, Pa.

Answer.—Kuhns and Potter (*Annals of the Rheumatic Diseases* **10**:22 [March] 1951) reported the successful use of a nylon membrane in arthroplasty of the knee in patients with rheumatoid arthritis. The material is inert in tissue and favors the formation under the membrane of fibrous tissue resembling fibrocartilage. Another inert substance, vitallium, has proved useful in arthroplasty of the hip joint, but molds of the material applicable to the knee and other joints have not yet been developed. Injection of oil into arthritic joints was tried as far back as 1914, evidently with poor ultimate results, since the method was abandoned.

DETECTION OF INCIPIENT CANCER

To the Editor:—*Three employees in our organization present definite and proved histories of malignancy in their families, some as far back as three generations. As the chances of these employees' developing cancer are statistically high, what general measures, apart from frequent physical examinations with laboratory adjuncts, can be undertaken to detect, as early as possible, the incipiency of malignant changes in one organ or another?* *M.D., Tenn.*

Answer.—Examinations to determine whether a person has early cancer or pathologic changes that might influence malignant change have proved satisfactory in detecting early disease. If the three employees of your organization were to be checked thoroughly every six months and subjected to proctoscopic examination, cytologic studies of all body secretions, and x-ray examinations as indicated, this would be the only protection that could be given. There are no laboratory tests on the blood or urine that would give any additional information.

LYMPHATIC LEUKEMIA IN THE NEWBORN

To the Editor:—*Is acute lymphatic leukemia in a newborn infant a rare condition?*

Charles W. Shlimbaum, M.D., Bay Shore, N. Y.

Answer.—Acute leukemia or acute lymphocytic leukemia is the commoner form of leukemia seen in children. The blood findings are severe anemia, thrombopenia, and varying numbers of immature and abnormal lymphocytes, mostly lymphoblasts. Leukocytosis of from a few thousand to several thousands is encountered. The clinical appearance of the infant or child is that of pallor, asthenia, enlargement of cervical nodes, skin hemorrhages, cough, dyspnea, stomatitis, and enlargement of the abdomen. The disease if untreated is fatal in a few weeks to a few months; however, the use of folic acid antagonists, corticotropin (ACTH), and cortisone has prolonged life in a small percentage of cases. Cooke (*J.A.M.A.* **101**:432 [Aug. 5] 1933) analyzed 50 cases of acute leukemia in children in a period of 15 years. Onset varied from birth to 9 months of age. In the older children the ratio of males to females was 2 to 1, but in the younger age group this disproportionate incidence was not found.

THE CORONARY ARTERIES IN RHEUMATIC HEART DISEASE

To the Editor:—*In rheumatic heart diseases, are there changes in the coronary arteries sufficiently significant to result in pronounced impairment of the coronary blood supply to the myocardium?* *Aaron N. Gorelik, M.D., Bronx, N. Y.*

Answer.—There have been several pathological reports showing that there may occur in the coronary arteries, as in other arterial beds, arteritides which, by pronounced intimal proliferation, with and without superimposed thrombosis, can produce sufficient narrowing or actual occlusion of the coronary arteries and their branches to cause impairment of the coronary circulation. In fact, some hold that myocardial infarction, especially in the younger age group, is often on the basis of such arteritides; however, in any particular case the pathological diagnosis of the specific etiology of the arteritis seen microscopically can usually be made only by implication, since the arterial changes may be the same, although the cause varies. Among the causes that have been held responsible for these lesions is rheumatic arteritis.

INJECTIONS OF AMINOPHYLLINE

To the Editor:—*A white man, 29, has had bronchial asthma since childhood. In the last four years he has been given intravenous aminophylline, 3¾ grains (0.26 gm.), almost daily and during a severe attack three or four times daily. He has probably received over 1,000 injections of aminophylline. What is the danger, if any, of continuing this therapy? Epinephrine gives no relief, nor does it seem that other medications help.* *M.D., New York.*

Answer.—It is unlikely that continuation of this therapy will give rise to any serious ill effects. Aminophylline is nontoxic and has, like other xanthine preparations, been given for years for its diuretic action without any evidence of toxicity either clinically or pathologically. If injected intravenously too rapidly, it may lead to syncope. In persons who are hypersensitive to the drug, symptoms of excessive cerebral stimulation, including wakefulness, vomiting, and generalized convulsions, may occur. Although such manifestations of hypersensitivity are generally to be expected early in the course of aminophylline therapy, development of hypersensitivity after protracted use is not impossible and should be watched for.

EFFECT OF TEMPERATURE ON BLOOD COAGULATION

To the Editor:—*Is a correction required of the values obtained for coagulation tests at various temperatures, within the limits of working conditions in an office (e. g., 16 C to 28 C)? If so, please quote literature or give formula.* *M.D., New York.*

Answer.—Temperature exerts a marked influence on the speed of blood coagulation. Comparative tests showed coagulation times varying from 6¾ to 8 minutes at 37 C and from 10½ to 16 minutes at 22 C in normal persons, and from 25 to 65 minutes at 37 C and from 76 to 121 minutes at 22 C in hemophiliacs. In the tests quoted all factors known to influence coagulation were controlled. The causes of these variations are not known. For these reasons there is no suitable correction formula. It is recommended that the test tubes be inserted in a water bath at 37 C. Quick (Quick, A. J., Honorato, R. C., and Stefanini, M.: The Value and the Limitations of the Coagulation Time in the Study of the Hemorrhagic Diseases, George R. Minot Symposium on Hematology, New York, Grune & Stratton, 1949, pp. 400-409) recommends an ordinary vacuum bottle filled with water at 37 C as a handy water bath.

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